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MANAGEMENT OF OCCLUSIVE ARTERIAL DISEASES OF THE EXTREMITIES

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Arteriosclerosis obliterans and thromboangiitis obliterans are the two most important occlusive peripheral vascular diseases. The former occurs predominantly in the older age group of either sex, and the course of the disease is accelerated by the coexistence of diabetes mellitus. The latter occurs almost exclusively in young men. The end result of both diseases can be total disability. This, in part, may be modified by early recognition and careful management. Although arteriosclerosis obliterans and thromboangiitis obliterans differ pathologically, the resulting symptoms and signs are caused by arterial insufficiency. Certain phases of treatment, therefore, apply to both diseases. It was recognized many years ago that patients with occlusive arterial peripheral vascular disease should be instructed to (1) avoid trauma; (2) avoid exposure to cold; and (3) avoid tobacco. These are basic principles that apply to the treatment of both diseases at any phase. It is convenient to consider treatment in three categories.

PHYSICAL MEDICAL MEASURES

The application of local heat to the extremities is a physical medical procedure which deserves careful evaluation. Excessive heat on the extremities increases the metabolic demand for a greater blood flow, and rapidly depletes the available tissue nourishment. In the presence of arterial insufficiency the increased demand caused by the excessive heat cannot be supplied. Ischemia and the tendency toward gangrene therefore are increased. When direct heat is applied locally to a limb with decreased arterial circulation, no type of high-temperature heating apparatus should be used. These include short wave diathermy, electric bulbs, and infrared heat, as well as hot-water bottles and hot foot soaks of medicated or nonmedicated solutions. Heat may be applied safely to a limb only by means of one of the accepted thermostat cradles. The temperature should never exceed 95 F.

A helpful means of determining the safety of direct heat is the caudal or lumbar parasympathetic nerve block. If a rise in temperature of 4 F or more following the block is noted, controlled heat is probably safe and may be comforting. If there is no temperature elevation following the block, the use of heat would undoubtedly be painful and frequently injurious. In contrast to direct heat, the application of reflex heat is a safe method and may be beneficial in the treatment of patients with occlusive arterial disease. This may be applied by means of the sitz bath or use of a heating pad or heat cradle over the abdominal and lumbar regions. Short wave diathermy may be applied safely when used reflexly. The electric blanket has some merit, especially in the treatment of patients who have night cramps of vascular origin. It has been my and my colleagues clinical experience that heat is not an effective therapeutic agent when applied directly to a limb with reduced arterial circulation. My colleagues and I use a well-constructed cradle, free from side braces, over the foot of the bed. This is covered with blankets, and the legs are encased in full-length loose-fitting stockings. Lamb's wool applied around the limbs as suggested by Samuels [1] is also an effective way of retaining warmth. If possible the room temperature should be 80 F or above. This method can be carried out safely either in the home or the hospital.

Some patients with severe arterial insufficiency are relieved of their pain by the application of cold. In these patients gangrene usually develops, and they require surgical intervention regardless of treatment. Use of cold as a preoperative form of relief is beneficial but should not be employed with the expectation of saving the limb.

Vascular exercises as suggested by Buerger and Allen have been employed by many physicians as a routine form of vascular therapy. The value of these exercises has never been determined physiologically, and E. V. Allen [2] doubts their importance. Wilkins [3] and associates recently have reported evidence which indicates that the standard exercises may not only be valueless but actually harmful. They investigated the effect of the dependent position on blood flow in the limbs. By means

From the Cleveland Clinic and the Frank E. Bunts Education Institute.
Read before the Section on Internal Medicine at the One Hundredth Annual Session of the American Medical Association, Atlantic City, June 13, 1951.
1. Samuels, S. S.: Management of Peripheral Arterial Diseases, New York, Oxford University Press, 1950.
2. Allen, E. V.; Barker, N. W., and Hines, E. A., Jr.: Peripheral Vascular Diseases, Philadelphia, W. B. Saunders Company, 1946, p. 748.
3. Wilkins, R. W.; Halperin, M. H., and Litter, J.: The Effect of the Dependent Position upon Blood Flow in the Limbs, Circulation 2: 373 (Sept.) 1950

of determining the arteriovenous oxygen differences based on the Fick principle, they were able to determine variations in peripheral blood flow in relation to position. This study demonstrated an increase in blood flow when the limb was in a dependent position of about 15% over the blood flow when the limb was in a horizontal position. In addition, they demonstrated a large increase in the arteriovenous oxygen difference in the presence of slight muscular activity. It could be concluded that any postural exercises designed to increase the peripheral circulation should be carried out only if muscular tension is avoided. Active muscular exercise as suggested in the standard Buerger-Allen procedure appears undesirable.

The study of Wilkins may explain in part the clinical effectiveness of the Sanders oscillating bed. During this maneuver the patient lies quietly in bed and is completely free from muscular tension. The Sanders bed, in our experience, has endured the test of time and appears to be one of the best mechanical devices available for the treatment of occlusive arterial disease. It is especially effective for the treatment of edema and for rest pain.

Prior to the report of Wilkins it was noted clinically that patients with vascular insufficiency were usually more comfortable when the limbs were in the dependent position. It has been our custom to elevate the head of the bed 6 in., thus allowing the legs to be slightly lower than the trunk. Patients with rest pain usually sleep with relative comfort in this position. Any attempt to elevate the limbs, even for a few seconds, frequently results in pain. Although not as effective as the oscillating bed, this simple maneuver can be carried out easily in the hospital or home. In the presence of significant edema it may be contraindicated.

The whirlpool bath, in our experience, is helpful in treating certain ulcerated lesions. It must be carefully used, however, regulating the time and temperature, and maceration of tissue must be avoided. It is helpful in gently removing crusts and necrotic tissue. It has no place in the routine treatment of patients with vascular insufficiency without ulceration and can in no way alter intermittent claudication.

Some time ago my colleagues and I discontinued the use of other mechanical devices, such as the venous rhythmic constrictor and the positive and negative suction apparatus. In our opinion little help, if any, resulted from prolonged application. The physical medical measures as outlined apply equally to arteriosclerosis obliterans and thromboangiitis obliterans.

SYMPATHETIC NERVE BLOCKS AND SYMPATHECTOMY

Lumbar paravertebral sympathetic procaine hydrochloride (novocain®) blocks have been used for a long time as a diagnostic aid and therapeutic measure. This procedure is of value in determining the degree of vasodilatation that may occur and is, therefore, helpful in deciding whether or not sympathectomy may be indicated. It is not infallible, however, and should not be used as the sole criterion for sympathectomy. As a therapeutic agent my colleagues and I have, in general, replaced the use of repeated blocks with sympathectomy when there are no existent contraindications to surgery. In our experience a caudal block is a more effective therapeutic procedure than lumbar paravertebral sympathetic blocks. A single injection will replace multiple lumbar injections, which frequently do not reach the proper source. A good vasodilating response may be recorded along with immediate relief of pain. Thirty cubic centimeters of 1% procaine hydrochloride solution is injected into the caudal canal. This enters the sacral epidural space and penetrates the motor and sensory nerve roots plus the white and gray sympathetic rami. This method produces a bilateral effect which, for diagnostic purposes, may not be desirable. My colleagues and I have also resorted at times to continuous caudal anesthesia. In the presence of a painful ulcerated lesion with edema of the foot, it is almost impossible to relieve the edema without some leg elevation. Without anesthesia this cannot be accomplished. When the swelling is reduced, the circulation improves and the severe pain cycle may be interrupted. Nerve block by one method or the other is essentially helpful in (1) temporarily relieving pain, (2) determining the value of sympathectomy, and (3) as a form of therapy when surgery is contraindicated.

Sympathectomy is a valuable procedure in the treatment of peripheral vasospastic arterial diseases, such as Raynaud's disease. Its use in cases of organic occlusive disease presents a different problem, and there are still differences of opinion regarding its value. DeBakey [4] and associates have pointed out that treatment should be directed toward vasodilatation of the local extremity involved rather than vasodilatation of the entire vascular system, such as results with the use of certain medications. Ray, Burch, and DeBakey [5] point out that sympathectomy conforms to the concept of hemodynamics known as the borrowing-lending phenomenon, or hemometakinesis, which stresses the importance of fluctuations in the blood volume. This physiological mechanism permits vasodilation in one area and vasoconstriction in another to occur simultaneously. The sympathetic nervous system is important in this reaction.

In properly selected cases it has been my experience and that of my colleagues that sympathectomy usually results in an immediate rise in the skin temperature of the limb involved. This elevation reflects increased cutaneous blood flow, which is very important in the treatment of ulcerated lesions and impending gangrene. Improvement in cutaneous circulation is also important in patients without ulceration, since it obviously gives them a much greater margin of safety should trauma occur. Failure to improve intermittent claudication may be due to the lack of vasodilatation that occurs in the vessels supplying muscle tissue. If the major vessel is occluded completely by disease, one cannot anticipate the occurrence of significant vasodilatation to alter muscle blood flow, thus improving walking distance. Leriche [6] has pointed out that sympathectomy may be a failure in cases of thromboangiitis obliterans when both the artery and vein are thrombosed. Sympathectomy will then only limit the area of gangrene.

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V 14
1951

Sympathectomy is a surgical procedure of merit in the management of occlusive arterial disease of the extremities. My colleagues and I advocate the criteria suggested by Pratt,[7] who stated that sympathectomy may be important in the stimulation of collateral circulation, provided certain prerequisites are met. These are (1) the patient has given up smoking completely and permanently; (2) conservative measures have been given an effective trial with progression of the disease; and (3) in certain instances sympathetic nerve blocks have resulted in clinical improvement with a consequent rise in skin temperature. This last requirement is modified frequently because of the excellent results apparent after sympathectomy despite limited results with the block. In our experience patients with thromboangiitis obliterans respond better to sympathectomy than those with arteriosclerosis obliterans.

MEDICAL MEASURES

In discussing medical measures the importance of local foot hygiene should not be minimized. Samuels [8] has commented recently on the reduction of the number of cases of thromboangiitis obliterans observed in recent years. He suggests that this may be due to improved treatment of fungus diseases of the feet during World War II. He also postulates that a single and as yet unidentified fungus will prove eventually to be the cause of the inflammatory reaction in arteries and veins. This subject was also studied by Thompson.[9]

Routine care should include daily foot baths with soap and water, careful drying, and the application of a mild ointment, such as hydrous wool fat (lanolin). Even when fungus disease is absent, the regular use of some fungistat is desirable. The presence of an ulcerated lesion obviously modifies and changes local foot care.

The use of vasodilator drugs has received attention for many years. As yet there is no satisfactory drug that will consistently effect clinical improvement. Much of the investigative work has been performed on patients with normal circulation. Although this approach is necessary, it does not apply to the patient with arterial disease. The measurement of changes in peripheral circulation also presents a problem, and as yet no single method of evaluation has been devised which is without error. However, by using one or more methods it is possible to arrive at some conclusion concerning the effects of certain drugs on the vascular system, with particular reference to changes in the cutaneous and deep circulation. One of the drugs which has received extensive investigation is priscoline* (2 benzyl-4, 5-imidazoline hydrochloride). First introduced in 1939 by Hartman and Isler,[10] it has been accepted as a sympatholytic drug of value in vasospastic disorders. Grimson [11] and associates reported favorable results in 1948. Further studies on normal subjects and those with peripheral vascular disease have been published.[12] Priscoline* used intravenously has a powerful vasodilating effect, which acts especially on the skin of the extremities. This vasodilatation probably results from a peripheral sympathetic blocking effect. By administering it intravenously, the drug may be of value in determining the completeness of a reflex heating test and in determining suitable candidates for sympathectomy. It may be used successfully as a substitute for lumbar paravertebral sympathetic nerve blocks. When given orally, in my colleagues and my experience, it has been of help clinically in the treatment of Raynaud's disease. However, patients with occlusive arterial disease have not been benefited by the oral administration of priscoline,* large doses being used for a prolonged period. Two other sympatholytic drugs are tetraethylammonium chloride or bromide (etamon*) and dibenzylbetachlorethylamine hydrochloride (dibenamine*). Both have the ability to block the sympathetic pathway. Both must be given intravenously or intramuscularly, which presents an obstacle in clinical practice. These drugs have a more generalized vasodilating effect, resulting at times in pronounced hypotension and reduced peripheral blood flow. Clinically they have been ineffective in our experience in the treatment of occlusive vascular disease. An additional drug receiving attention at the present time is betapyridyl carbinol (roniacol*) tartrate, and a preliminary report has been submitted by Samuels.[13] My colleagues and I have used this preparation extensively during the past year on patients with occlusive arterial disease as well as on patients with Raynaud's disease and believe the drug merits further investigation. As in the case of priscoline,* this drug appears more beneficial in cases of Raynaud's disease.[12a]

Adequate reports are not available concerning the use of corticotropin (ACTH) and cortisone in the treatment of thromboangiitis obliterans. Allen [14] states that he noted no improvement in a limited number of cases. Kappert and Hadorn [15] have recently reported the use of new hydrogenated ergot alkaloids in cases of peripheral vascular disorder. Their results in 118 cases appear encouraging and merit additional investigation.

The importance of anticoagulants in the treatment of thromboembolic disease is well recognized. Their routine

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13. Samuels, S. S., and Pader, E. D.: A New Vasodilator (Roniacol): A Preliminary Report, Angiology **1**: 236 (June) 1950.

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15. Kappert, A., and Hadorn, W.: Experimental and Therapeutic Investigations with Certain New Hydrogenated Ergot Alkaloids in Peripheral Vascular Disorders, Angiology **1**: 520 (Dec.) 1950.

use in cases of uncomplicated peripheral vascular disorder is not recommended. Freeman [16] and associates have reported on the use of intra-arterial heparin in vascular surgery. More recently Freeman and Gilfillan [17] have used heparin intra-arterially in conjunction with endarteriectomy. This procedure opens a new approach for the treatment of arteriosclerosis obliterans with complicating thrombosis, and the results to date appear encouraging.

Any summary of medical therapy should include some reference to the work now in progress of many investigators concerning the use of low cholesterol, low fat diet, combined with lipotropic and endocrine agents. This subject has been reviewed recently by Morrison.[18] Several years' study will be required in order to draw conclusions from the available evidence, which would indicate that this approach is worthy of continued investigation.

Weisman and Allen,[19] by means of carefully controlled skin temperature studies and clinical observation, could detect no significant improvement following the use of histidine and vitamin C. Similar results were recorded after the intravenous use of ether. My colleagues and I have had little success clinically with nicotinic acid and papaverine. Samuels [1] has employed sodium chloride intravenously in the treatment of thromboangiitis obliterans and arteriosclerosis obliterans. He has reported excellent results when the preparation is used concurrently with routine measures, although other [20] workers have not substantiated his experience.

This report of management of occlusive peripheral vascular disease omits by necessity many important factors, especially those related to the local care of the extremity with advanced arterial insufficiency. Although laboratory evidence is lacking, the clinical picture of thromboangiitis obliterans is, in my opinion, consistent with a specific etiological agent. Even in the absence of a known cause, patients with thromboangiitis obliterans can be treated successfully. In contrast, arteriosclerosis obliterans presents a more difficult problem, and available treatment is chiefly palliative in nature.

CONCLUSIONS

There is no single form of treatment for the management of occlusive peripheral vescular disease. Adequate therapy combines the intelligent use of physical medical, surgical, and medical measures. Persistent use of conservative measures, as outlined, may result in saving many limbs.

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V 14
1951

MANAGEMENT OF ABNORMAL PRESENTATION DURING SECOND STAGE OF LABOR

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In recent years there have been few radical changes in the management of abnormal presentation during the second stage of labor. But it behooves us all to review our results periodically and to attempt to improve our fetal salvage. This may often be accomplished by emphasizing such commonly accepted procedures as sterile vaginal examination during labor or frequent auscultation of the fetal heart. Many hospitals require obstetric consultation for prolonged or complicated labor, such as those with abnormal presentation. A good physician, whether a specialist or general practitioner, should not hesitate to consult another physician.

GENERAL CONSIDERATIONS

Etiology.—Though there are numerous causes of abnormal presentation, the commonest are the following: cephalopelvic disproportion, relaxed musculature of the multipara, prematurity, placenta previa, congenital anomalies, twin pregnancy, and pelvic mass. Frequently no definite cause can be found, and yet abnormal presentation may recur with a subsequent pregnancy.

Diagnosis.—Though the diagnosis of abnormal presentation should be made as early in labor as possible, or even before onset of labor, one frequently becomes aware of the abnormal situation for the first time when the second stage is reached and the fetus fails to descend. Because of the tense abdominal wall, abdominal palpation may give little help in diagnosis. Rectal examination, though giving more information, may merely indicate an unusual problem without disclosing the presenting part. It is at such a time that a sterile vaginal examination is often of great assistance in evaluating the presentation and position and the progress likely to be made with further conservative measures. X-rays of the pelvis are another desirable aid in diagnosis. They may be used at the second stage of labor to check on the abnormal presentation and its cause.

Choice of Delivery.—In general, if satisfactory progress is being made and if the condition of the mother and baby is good, it is safe to be conservative. When little or no progress is being made, there is no point in waiting longer for active intervention. The choice of procedure will be influenced by the cause of the abnormal presentation, by the condition and viability of the baby, and by the condition of the mother. The age and parity of the mother may be a factor, as well as the length of time in labor or with ruptured membranes. The physician should usually select a procedure with which he is familiar. He should have clearly in his mind the position of the fetus

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and the relation of the forceps to the fetus and to the birth canal. Gentleness and skill should replace force and strong traction. A cesarean section may be preferable to a difficult vaginal delivery when no consultant is available. But one should also bear in mind that despite the advent of antibiotics the statistics on cesarean section show that it does not approach the safety of a vaginal delivery for the mother.

Supportive Measures.—To the Fetus: The checking of the fetal heart rate at frequent intervals becomes more important as the second stage is reached. This cannot be overemphasized, for with abnormal presentation prolapse of the cord is much commoner than in normal labor. In the event of signs of fetal distress, appropriate measures should be taken, including the administration of oxygen to the mother. A suction catheter, oxygen, resuscitator, stimulants, and incubator should all be ready in case the baby should be slow to breathe. Although use of vitamin K has not reduced the incidence of intracranial hemorrhage as much as was originally hoped, there are few who would deny this to a woman in complicated labor or to a baby after difficult delivery.

To the Mother: Since prolonged labor is frequent with abnormal presentation, supportive measures are of the utmost importance when the mother is nearing delivery. Adequate sedation should be given, at the same time avoiding suppression of the contractions or depression of a premature infant. Intravenous fluids should be given as indicated, and blood should be available for emergency. Antibiotics and sulfonamides are often used when labor is unusually extended or if membranes have been ruptured. The use of oxytocin injection (pitocin®) in the second stage of labor should be condemned for abnormal presentation. It is in such cases that fetal death has occurred from intracranial hemorrhage. [1] Whether or not one is sympathetic with the teaching of natural childbirth, most practitioners and obstetricians recognize the value of encouragement and reassurance which allow a patient to relax at least between contractions. It is in the last part of the labor that one or more visits to the patient are important for her morale.

Anesthesia.—The type of anesthesia selected will depend to a large extent on whether uterine relaxation is required. Inhalation anesthesia will never be replaced entirely, for the safety and ease of administration of ether are well known. In many small hospitals where obstetrical anesthesia is given by untrained personnel, open drop ether is still the best choice. Nitrous oxide, cyclopropane, and chloroform all have their advantages. Intravenous thiopental (pentothal®) sodium anesthesia is employed in some centers successfully but is not suitable for general use in smaller hospitals.

In the field of conduction anesthesia the saddle block has replaced caudal anesthesia in many areas because of the ease and safety with which it can be given. Though not as prolonged as continuous caudal anesthesia, it may also be given in the last part of labor before delivery is begun. Excellent perineal relaxation is obtained, and frequently a fetus in a posterior position or a breech presentation may be quite easily delivered under a low spinal anesthesia. For internal podalic version or for a high rotation of the head, inhalation anesthesia is preferable. Similarly, pudendal block and local infiltration have their place in a physician's armamentarium—for a patient who has vomited under general anesthesia.

Complications.—Among the complications associated with abnormal presentation, prolonged labor with cervical dystocia or secondary inertia is the commonest. Other untoward events might include development of a pathological contraction ring, prolapse of the cord or an arm, or rupture of the uterus. And in the later stages of labor retained placenta, atony of the uterus, and postpartum hemorrhage are not uncommon. The management of these individual complications is not within the scope of this paper.

SPECIFIC PROBLEMS

Occiput Posterior.—Because of excessive molding of the head, with caput formation, the diagnosis of this condition may be difficult. Feeling the ear by vaginal examination will usually give the clue in such a case. Anyone who has followed patients in labor with repeated examinations knows that a high percentage of fetuses in occiput posterior positions will rotate spontaneously to the anterior. This percentage is quoted to be from 70% [2] to 97%.[3] No rigid time limit should be set for all cases, but if no rotation has occurred after two hours of full dilatation in a primipara or after one hour in a multipara, it would seem reasonable to assist the delivery. The physician may at times be plagued also by incomplete dilatation of the cervix in these cases.

Delivery is usually accomplished by rotation manually or by forceps (Scanzoni maneuver). Occasionally with a small baby or with a roomy pelvis, the baby may be delivered in an occiput posterior position. Such a delivery, however, runs the risk of undue trauma to the baby or lacerations to the maternal soft parts. Internal podalic version is rarely necessary, and cesarean section should be reserved for disproportion.

Transverse Arrest.—Caldwell, Moloy, and D'Esopo [4] have emphasized the frequency of transverse position of the fetal head in the descent into the pelvis. Yet occasionally with a flat pelvis or a large baby, the baby in such a position will not rotate or in an occiput posterior position will rotate only to the transverse. Here again time should be given in the second stage to permit the head to descend and to rotate spontaneously. If intervention is necessary, rotation may be assisted manually or by forceps. The Barton and the Kielland forceps are particularly adapted for such problems, but the commoner Simpson forceps may also be used. If a perfect application cannot be made at first, gentle rotation with subsequent reapplication of the blades is often feasible and will not injure the baby. Frequently the head may seem to descend more easily in the transverse position, with rotation accomplished on the perineum. Use of axis traction or supplementary suprafundic pressure may prevent excessive trauma.

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Breech Presentation.—This group includes many premature infants and also many anomalies. The complications to be guarded against particularly are disproportion and prolapse of the cord. A good rule is to have an x-ray of all primiparous breeches. There is some disagreement as to the optimum time for delivery of a breech. But for one who is not trained in obstetrics, it is preferable to wait until the buttocks have been delivered spontaneously before assisting the delivery. This is particularly true of a premature infant, in which the head is proportionately larger than the body, or of a single footling presentation, when dilatation of the cervix may not be complete. Another physician or a nurse should be available to assist at the delivery. An episiotomy should be made before delivery is started. Progress in extraction must be steady, but movements must not be hurried or forceful. Use of Piper forceps to the head, if this is not delivered easily, will prevent trauma to the infant. Cesarean section again should be reserved for cases of disproportion or for borderline pelvic measurements in an elderly primipara.

Face Presentation.—Many face presentation babies will be delivered spontaneously, chin to pubis, if sufficient time is allowed, and with easy low forceps delivery included 75% will offer no great problem.[5] Internal podalic version may be the method of choice in some cases, though because of risk to the mother and fetus this maneuver has been used less frequently in recent years. Cesarean section is usually done in about 10% of cases, being especially indicated in cases of disproportion or when the chin is in a posterior position. Cesarean section done at the second stage of labor should be of the low flap or extraperitoneal type.

Brow Presentation.—Fewer babies of this classification will be delivered spontaneously, and the prognosis is worse for the fetus. Attempts may be made under deep anesthesia to flex the head to convert it to an occiput presentation or, failing this, to convert it to a face presentation. Such conversion, however, may not be possible. If no progress is made, podalic version or cesarean section may be the procedure of choice.

Transverse Presentation.—Because of the relatively high maternal and fetal mortality rates,[6] diagnosis of transverse presentation should be made as early as possible, and when the condition is suspected, x-rays should be taken. Prolapse of the cord and arm are common. Cesarean section is probably the safest method of delivery in the average case, and, of course, the fetal heart rate must be checked just before operation. If the diagnosis is not made until the second stage of labor is reached and if the membranes are intact or recently ruptured, the skilled physician may safely and properly do an internal podalic version. In the case of a dead fetus, Braxton Hicks version is the best choice.

SUMMARY

The diagnosis, choice of delivery, and supportive measures to the mother and fetus in the second stage of labor are discussed, first in general and then in relation to specific types of abnormal presentation.

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V 14
1951

SURVIVAL, RESCUE, AND RESUSCITATION

Rear Admiral B. Groesbeck, Jr., (MC) U. S. N.

The Armed Forces are keenly interested in survival, rescue, and resuscitation. They desire to conserve manpower and to maintain high morale, and the development of survival, rescue, and resuscitation techniques contribute to both of these factors. The aircraft pilot, the submariner, the men who man the surface ships, and the amphibious forces transported therein know that there are inherent dangers in the performance of their duties, many of which have nothing to do with the dangers of actual combat. It is a comforting feeling for them to know that efforts are being made and equipment provided to increase their opportunity of survival and the possibility of rescue in the case of accident or disaster.

A great deal of survival equipment was developed during World War II principally for the support of the aircraft pilot. Starting as a simple first-aid kit, the equipment developed into a variety of more or less comprehensive collections of gear designed to provide shelter and means of sustenance, with particular emphasis on tropical conditions. Recently survival problems other than those met with in the tropics have assumed importance, and it has become necessary to develop survival equipment and techniques on a global basis.

The opinions contained in this paper are those of the author. They are not to be construed as necessarily reflecting the views or the endorsement of the Department of the Navy.

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SURVIVAL AND RESCUE

Aircraft.—As for aircraft, the design configuration and the high speeds of new types necessitated the development of a device which would permit safe escape from the aircraft in emergency. For various reasons, unaided escape is neither easy nor safe, and as a result, there was developed the ejection seat which provides a safe means of egress. The antibuffeting helmet was developed to protect the head of the pilot during the violent vibrations of uncontrolled aircraft.

However, with the pilot clear of the ship, still other problems arose. The opening shock forces of the standard parachute at high altitudes and high speeds were of such a magnitude as to create a further possibility of severe injury. It was necessary to improve the design of the parachute in order to lessen shock, and it was also imperative to improve oxygen equipment for safe descent from extremely high altitude to prevent anoxia.

Once the airman is safely down, further problems in survival confront him, depending on the area in which he lands. A great deal of military flying is being done over arctic and subarctic areas, over both land and sea, introducing the need for development of other survival equipment and knowledge. The know-how to live in an extremely cold and relatively barren area is obviously important. It is necessary not only to supply equipment but to train personnel in its use and to care for themselves under severe climatic conditions.

The philosophy regarding survival equipment has undergone recent changes. It has been necessary to analyze the emergency nature of the various survival situations in order to establish the fundamental requirements for items of survival gear. Because of space and weight limitations, the gear carried in fighter planes is curtailed, and this equipment is purely short-term emergency equipment. Items designed for prolonged survival are carried by special rescue aircraft. In sustenance kits of purely emergency type, the material is intended to make the person comfortable until either rescue takes place in a short time or long-term survival supplies can be furnished. It should be emphasized also that there is a continuing need for further methods of early location of personnel down in remote, isolated, and difficult terrain and in ocean areas.

The extensive study devoted to the clothing necessary to cope properly with the survival situation on the ground or in the water has resulted in the development of all-purpose types. In spite of considerable progress, this equipment has not yet reached perfection. Immersion protection for the person suddenly thrown into the cold, or even cool, water presents a considerable problem. Immersion is a highly lethal hazard. A human body cools when immersed in water at a temperature of less than 92 F., and the warmest open-ocean water in any latitude at any time of the year is 84 F. The rate of loss of body heat increases rapidly as the temperature of the air and water falls. Persons, even in warm climates and while sitting in life rafts, lose body heat by evaporative cooling. A person in water in the Aleutian area with a water temperature of 30 F. may survive only 20 to 30 minutes. Exposure to sea water for a long time, although not sufficient to kill, does, by a general chilling of the body, act locally to cause gangrene. An exposure suit for protection against immersion is a highly desirable piece of equipment for survival when one is operating over or on the water and immersion is a possibility. During World War II the need for fireproof or fire-resistant clothing for both the aviator and rescue teams was pointed out. Considerable progress has been made on these items.

When a person is forced down in an aircraft or abandons a ship at sea, he is faced by two chief problems in his efforts at survival. First, he must have flotation gear of a sort, and, second, he must have water to drink. Small, compact, yellow-colored rubber life rafts have been developed for the airman to carry. The yellow color aids in the raft's detection, and when special search-type goggles are used by the rescuers, filters in the goggles accentuate the yellow color against the background of the sea, making the raft more readily detectable. Other type rafts, including large dropable rigid boats, are part of the equipment used in rescue of persons in the sea. Most life rafts are equipped with cans of water, but better still are the compact devices which can be used to manufacture potable water from sea water. These include desalinization kits and solar stills.

An item in the survival category which is very much needed is a comprehensive and concise weatherproof manual for survival on land and sea under all climatic conditions. Such an item would furnish ready information on survival procedures under all conditions and greatly enhance the chances of personnel forced to shift for themselves under difficult circumstances.

Extensive field trials have been made of much of the recently developed survival equipment. Collaboration with the British Navy, Royal Air Force, and our Canadian neighbors in evaluating this equipment has made it possible for an extensive review to be made of all the presently available equipment and techniques. Shortcomings of some of the items have been demonstrated, but perhaps the greatest weakness of all is in the lack of indoctrination and training of personnel in survival techniques and use of equipment. It is apparent that the Armed Forces as a whole must carry out an extensive program in survival training, especially in cold-weather survival, if we are to be successful.

In the field of rescue equipment and techniques, I am certain everyone is aware of the remarkable adaptability of the helicopter in short-range rescues. There are numerous accounts of the rescue of downed aviators through the use of this remarkable aircraft. There is still, however, need for the improvement of this rescue device. This improvement involves some of the design features of the aircraft itself, as well as the equipment used for picking up personnel and comfortably transporting them to a more favorable location. Recently, in one instance, an injured naval aviator down at sea was unable to be rescued by helicopter because he was physically incapable of securing the line to his person so that he might be hoisted into the aircraft.

Submarine.—In submarine escape considerable advance has been made. Experience in the past has shown that indoctrination and training in procedures for escape from disabled submarines has been very valuable. Submarine personnel should be made intimately acquainted with the principles involved in the physics and physiology of the gases employed in the individual submarine-escape device as well as with the technique of "free" escape for use in shallow water. For moderately deep escape there should be a compression chamber on hand to treat those persons in whom decompression illness develops. For escape from extreme depth (150 ft. or more), another technique developed and used with success in the rescue of personnel from the USS Squalus is that of the rescue chamber. This chamber is lowered over the hatch of the submarine, and survivors are brought to the surface by raising the chamber itself. There are two escape-training tanks in operation in the Navy. These are at New London and Pearl Harbor. Training in these tanks acquaints submarine personnel in the techniques for both "lung" and "free" escapes.

RESUSCITATION

The subject of resuscitation is presently under intensive study. Under the guidance of Dr. David B. Dill, Scientific Director of the Army Chemical Corps Medical Laboratory, a group of highly interested and very capa-

ble scientists from various parts of the country have been investigating the problem of resuscitation techniques for the Armed Forces. These persons have been mainly interested in manual resuscitation techniques. When the most effective methods to be used in resuscitation were being determined, some very fundamental studies in cardiorespiratory physiology were carried out. Determination of lung volume-pressure relationships is important with respect to body positioning. These relationships are changed by body positioning and the role of the abdominal content in limiting excursion of the diaphragm and in other instances in producing diaphragmatic movement. This latter factor is taken into account in some of the techniques in resuscitation.

There has recently been an evaluation of the various manual resuscitation techniques by Wittenberger and Sarnoff, Ivy and his group, and others. It is generally agreed that the Schafer method is a poor one, although it is the most widely used, since the amount of air moved in and out of the lungs during each induced respiratory cycle is small. The Eve method, which makes use of the weight of the abdominal organs to alternately push and pull the diaphragm up and down like a piston, has the approval of many. However, this method requires a certain minimum of equipment, and often such equipment is not available or is available only after some delay. An occasion may arise in which a delay of as much as 30 to 60 seconds would be serious. An effective method which requires no equipment, but which uses the push on the diaphragm by the pressure of the abdominal organs, is the hip-lift method. To obviate the fatigue of the operator and still maintain effectiveness, the hip-roll technique has been suggested as a substitute for the hip-lift. This latter method can be done for longer periods of time and is as effective as the hip-lift method. It has been further modified by ending each cycle with compression of the lower part of the chest, as in the Schafer method.

It is yet a question whether manual artificial respiration is as efficient as insufflation of the lungs by a mechanical device. The margin of difference between the two often appears to be small. To rely entirely on mechanical methods to reinstate breathing would not seem to be the best policy to follow. In some of the overwhelming accidents with sudden asphyxia or respiratory failure, delay in restoring respiration while one is waiting to procure, apply, and adjust a machine would be foolhardy.

That mechanical respirators are of considerable value is not denied. When they are readily available and operated by experienced personnel, they often have a distinct advantage over manual methods. They may be operated for prolonged periods of time and permit the administration of either 100% oxygen or various gas mixtures. Regardless of the merits of mechanical resuscitation, the matter of primary importance to the Armed Forces today is the selection of the most efficient method of manual resuscitation and the training of its personnel in that method. For a good many years all personnel have been trained in the use of the Schafer method, and the job of retraining in a new method is not inconsiderable when one considers the number of persons involved. To avoid confusion, the method chosen must be equally acceptable to civilian groups, and training in resuscitation as a first-aid measure must be standardized throughout the United States.

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VENEREAL DISEASE CONTROL

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The modern venereal disease control program in the United states may be said to have begun on May 24, 1938, when the National Venereal Disease Control Act of 1938 was passed—

> For the purpose of assisting states, counties, health districts, and other political subdivisions of the states in establishing and maintaining adequate measures for the prevention, treatment, and control of the venereal diseases; for the purpose of making studies, investigations, and demonstrations to develop more effective measures of prevention, treatment, and control of the venereal diseases, including the training of personnel.[1]

When venereal disease control is talked of, syphilis is usually spoken of. Syphilis and gonorrhea are by far the most prevalent of the venereal diseases, and gonorrhea is many times more prevalent than syphilis. While control of gonorrhea may still be considered a public health function, the use of the sulfonamides and penicillin in its treatment, with the concomitant reduction of serious complications and the promptness with which infected persons seek treatment,[2] place it in a different category from syphilis. So in my discussion of the control of venereal diseases, I will be speaking principally of the control of syphilis.

CONTROL MEASURES

In the United States the venereal disease control program is based on six major administrative procedures, which have been aptly described by Dr. J. E. Moore.[3] At least one or more of the measures to be mentioned constitutes the control programs carried on in different parts of the country.

Methods Planned to Reduce Number of Potentially Infectious Exposures.—The objective here is modification of human behavior, i. e., reduction of sexual promiscuity. Most of these methods represent primarily community rather than medical or public health effort. They are long term rather than short and are difficult to evaluate. The failures of the methods involved are measured,

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1. Statement on S. 3290, Public Law 540, Chap. 267, read before the 3d Session of the 75th Congress, 1938.
2. Wright, J. J., and Sheps, C. G.: Reports of the North Carolina Syphilis Studies: III. An Evaluation of Case-Finding Measures in the Control of Gonorrhea, J. Ven. Dis. Inform. **30**: 213 (Aug.) 1949.
3. Moore, J. E.: An Evaluation of Public Health Measures for the Control of Syphilis, Am. J. Syph. **35**: 119 (March) 1951.

rather than the successes. These efforts on the part of the churches, schools, colleges, recreational and housing agencies, and law-enforcement agencies must be continued and new techniques developed if the gains we have made are to be maintained.

Methods Planned to Reduce Probability of Infection if Exposure Occurs.—This refers to prophylaxis—mechanical, chemical, and chemotherapeutic. Prophylaxis is not a method to be emphasized in civilian life, although in our educational approach it should not be omitted.

Methods Planned to Improve Diagnosis and Treatment if Infection Occurs.—In the United States medical education in regard to syphilis has improved greatly in the past 15 years. Laboratory diagnosis has improved—the use of the cardiolipin antigen and the discovery of the Treponema-immobilizing antibody have given a new meaning to serodiagnostic tests. New chemotherapeutic methods—first, improved schemes for intensive treatment with arsenic, then in 1943 the introduction of penicillin—have completely revolutionized the treatment of syphilis and gonorrhea. The almost universal use of penicillin for diseases other than syphilis has undoubtedly had its effect on the control of syphilis by unknowingly breaking the chain of infection and thus lowering the incidence rate and curing many cases of undiagnosed syphilis.

Methods Planned to Increase Availability of Diagnostic and Treatment Facilities.—An infected person almost anywhere in the United States can receive expert diagnostic, consultative, and therapeutic service at no cost.

Methods to Increase Number of Infected Persons Brought and Kept Under Treatment Until Its Completion.—This refers to case finding and case holding. Mass blood testing has been developed in the last 13 years. It is by this method that the reservoir of late and latent syphilis cases has been so materially exhausted. The epidemiological approach to case finding is a real contribution to control so far as bringing early infectious cases to treatment. It is this approach to the problem of case finding that has been so effective in the hands of public and private clinics. However, it has been quite ineffective in the hands of the private practitioner, and new techniques for his utilization of this control method have yet to be developed.

Medical and Administrative Research.—This refers to developing and testing methods of control, evaluating their effectiveness, and answering the unsolved medical and immunological problems relating to syphilis which were described in 1939.[4]

EFFECT OF CONTROL MEASURES

What has been the effect of these methods of control that have been so sketchily described? Have the purposes of the National Venereal Disease Control Act been met? What is the evidence?

Table 1 summarizes reported mortality and insanity due to syphilis for the years 1933 through 1950.[5] An average of 20,053 deaths from syphilis occurred each year in the continental United States from 1933 to 1939, resulting in a rate between 15 and 16 per 100,000 population. In 1940 the rate began to decline steadily, which has continued through 1950 when the Public Health Service estimated the rate to be 7.0 (about 10,000).[6] This decrease is particularly meaningful in view of the increasing accuracy in the reporting of deaths due to syphilis since 1939.

From 1933 to 1936 first admissions to mental hospitals (exclusive of veterans hospitals) for psychoses due to syphilis occurred at the rate of 6.6 per 100,000 civilians. This rate remained at the same level until 1943, when 7,284 patients were admitted, a decrease to 5.4. In 1949 there were 4,690 such patients admitted, a further decrease to 3.2 per 100,000.[7]

In 1933 before their first birthday 1,639 babies died from syphilis, resulting in an infant mortality rate due to syphilis of 0.79 per 1,000 live births for that year. In 1940 there were 1,251 infant deaths from this cause,

TABLE 1.—*Reported Mortality and Insanity Due to Syphilis, Continental United States, 1933-1950*

Year	Syphilis Mortality Per 100,000 Population			Infant Mortality Due to Syphilis, Rates Per 1,000 Live Births			First Admissions to Mental Hospitals Due to Syphilis, Rates Per 100,000 Population *
	Total	White	Nonwhite	Total	White	Nonwhite	Total
1933	15.1	10.9	52.4	.79	.44	2.95	6.6
1934	15.9	11.3	56.6	.74	.41	2.84	6.6
1935	15.4	11.0	54.0	.70	.41	2.77	6.6
1936	16.2	11.5	56.8	.73	.41	3.07	6.6
1937	16.1	11.4	58.0	.69	.37	2.96	6.4
1938	15.9	11.1	58.2	.63	.33	2.81	6.3
1939	15.0	10.4	55.1	.57	.28	2.60	6.6
1940	14.4	9.9	54.3	.53	.25	2.52	5.8
1941	13.3	9.3	47.5	.41	.18	2.03	6.1
1942	12.2	8.6	42.5	.30	.15	1.50	5.9
1943	12.1	8.6	42.1	.25	.12	1.28	5.4
1944	11.3	7.9	39.6	.27	.12	1.35	5.3
1945	10.7	7.5	36.9	.25	.11	1.26	5.2
1946	9.3	6.6	32.1	.16	.07	.92	4.7
1947	8.8	6.4	29.9	.14	.05	.82	4.3
1948	8.0	5.7	26.9	.12	.05	.63	3.7
1949	7.6	5.6	23.8	.09	.04	.45	3.2
1950†	7.0	....	....	...	...	....	...

* Does not include admissions to Veterans Administration hospitals.
† Estimated.
Source: Federal Security Agency, United States Public Health Service, Division of Venereal Disease, Office of Statistics.

and in 1948 only 438 infant deaths were due to syphilis, resulting in a new low of 0.09 deaths from syphilis per 1,000 live births.[8] With the recognition that deaths and disabilities due to syphilis are not all reported as such, there is no doubt that these figures represent a true decline in mortality and mental disease due to syphilis.

What is the evidence regarding the frequency of syphilis in the general population? It is well known that not only are many cases undiscovered but that, of those which are diagnosed, a considerable proportion are not reported. Despite these rather serious limitations, however, much can be learned by examining the data on the reported cases of syphilis.

4. Footnote 3, p. 132.
5. Venereal Disease Fact Sheet, No. 7, December, 1950, Federal Security Agency—Public Health Service Division of Venereal Disease Office of Statistics.
6. Summary of Reported Syphilis Mortality, Continental U. S., 1933-1948, J. Ven. Dis. Inform. **31**: 123 (April) 1950. Rates for 1949 and 1950 estimated by Division of Venereal Disease, P. H. S., F. S. A., Office of Statistics.
7. Bauer, T. J.: Personal communication to the author. Computations by Office of Statistics, Division of Venereal Disease, Federal Security Agency, United States Public Health Service. Bureau of Census: Patients in Mental Institutions, 1933-1946. National Institute of Mental Health: Patients in Mental Institutions, 1947-1948.
8. Syphilis Infant Mortality Data, Continental United States, 1933-1948, J. Ven. Dis. Inform. **30**: 122 (April) 1950.

The Figure is a graphic representation of statistics compiled by the Public Health Service [9] showing the reported cases of acquired syphilis since reporting by stage first began in 1941. First, it is seen that the discovery rate of late and late latent syphilis reached a peak in 1943, then fell sharply, and has leveled off since 1947. Second, the number of cases of early latent syphilis reported has remained at a fairly constant level. Finally, the number of reported cases of primary and secondary syphilis rose slowly from 1941 until the close of the war, when it rose sharply. After this the number fell rapidly until in the year 1950 it reached the lowest level since reporting by stage began, and this decrease has continued into 1951.

TABLE 2.—*Funds Budgeted for Venereal Disease Control*

Fiscal Year	Federal	State and Local	Total	From State and Local Services (%)
1939	3,080,000	4,342,339	7,422,339	58.5
1940	4,723,366	5,988,655	10,712,021	55.9
1941	6,362,219	6,842,926	13,205,145	51.8
1942	8,447,294	6,984,585	15,431,879	45.3
1943	10,595,880	7,457,100	18,052,980	41.3
1944	10,984,531	9,300,275	20,284,806	45.8
1945	10,325,724	11,726,759	22,052,483	53.2
1946	10,278,094	11,428,098	21,706,192	52.6
1947	16,628,000	11,842,951	28,470,951	41.6
1948	17,602,000	21,253,000	38,855,000	54.7
1949	17,359,000	25,332,000	42,691,000	59.3
1950	15,719,000	25,729,000	41,448,000	62.1
1951	12,864,000	22,432,000	35,296,000	63.6
Total 1939-51	144,969,108	170,659,678	315,628,786	54.1

Federal Security Agency—Public Health Service Division of Venereal Disease Office of Statistics.

TABLE 3.—*Savings in Cost of Maintaining Syphilitic Psychotics in Mental Institutions (Excluding Veterans Administration Hospitals) Since Beginning of Federal Grant-In-Aid for Venereal Disease Control**

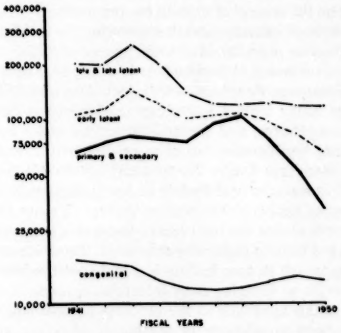
Year	Number Would Have Been Admitted	Actual Admissions	Admissions Saved	Savings †
1937	8,502	8,275	227	$ 2,485,650
1938	8,568	8,217	351	3,843,450
1939	8,626	8,625	.....	.....
1940	8,689	7,692	997	10,917,150
1941	8,683	8,083	600	6,570,000
1942	8,638	7,925	713	7,807,350
1943	8,409	7,284	1,125	12,318,750
1944	8,351	7,068	1,283	14,048,850
1945	8,412	6,897	1,515	16,589,250
1946	9,134	6,547	2,587	28,327,650
1947	9,416	6,102	3,314	36,288,300
1948	9,589	5,394	4,195	45,935,250
1949‡	9,752	4,690	5,062	55,428,900
Totals			21,969	$240,560,550

* If rate of admissions of syphilitic psychotics per 100,000 civilians had remained 6.6 (as it was in 1933-1936).
† At a cost of $3.00 a day and 10 years of hospital life, or $10,950 per syphilitic psychotic.
‡ Estimated.
Federal Security Agency—Public Health Service Division of Venereal Disease Office of Statistics.

The backlog of undiagnosed late and late latent syphilis in our population has been materially exhausted, thereby reducing the size of the reservoir of disability and death. In the reservoir of syphilis infection there is another group—the undiscovered infectious cases—which perpetuate the disease. How many newly acquired cases are not being diagnosed and treated? It is known, on the bases of reported cases alone, that there are more cases being reported in the early latent stage than in primary and secondary stages. This means that over half of the infections with syphilis (actually about 60%) are being missed in the period of maximum infectiousness.

The Figure also shows the disturbing statistics on congenital syphilis. During the period of widespread use of penicillin, the number of cases of congenital syphilis reported has remained constant. Furthermore, only one-fourth of the congenital syphilis cases reported among children of 14 years or younger is being discovered in the first year of life.[10] This points to failure somewhere in the program.

The crux of today's syphilis problem is the discovery of early cases. The attack rate now needs to be used as the guiding index of the effectiveness of the control program. Modern treatment has virtually swept away the case-holding problems of syphilis control. Aside from educational and other measures aimed at reducing promiscuity, the core of the syphilis control program must therefore lie in the persistent and diligent application of effective case-finding procedures. To control the spread of syphilis the use of those methods which find the cases in the infectious stage needs to be increased.



Reported cases of syphilis in the civilian population of continental United States from 1941 through 1950.

How much money has been spent in developing and carrying out the program described? Table 2 shows the funds budgeted for Venereal Disease Control in the United States from 1939 through 1951. A total of $315,628,786.00 has been spent by official agencies (local, state, and Federal) since 1939. Does this great expenditure of funds represent a sound investment from the point of view of return for the money invested? Objective evidence of this return on the investment is shown in Table 3 by the saving in the cost of maintaining syphilitic psychotics in mental institutions since the beginning of the Federal grant-in-aid for venereal disease control.

The average duration of hospital life for such patients is 10 years; at a cost of $3.00 per patient per day, which

9. Statistical Reports of Venereal Disease Division, Federal Security Agency, United States Public Health Service, Office of Statistics, 1941-1950.
10. Editorial, J. Ven. Dis. Inform. **30**: 241 (Sept.) 1949.

is a conservative estimate, the hospitalization cost alone of a single syphilitic psychotic is $10,950.00. The actual admissions saved during the 13-year period (1937-1949) as compared with the admission rate for the 4-year period (1933-1936) were 21,969, resulting in a saving of $240,560,550.00 in hospitalization costs alone.[7] Add to this the saving of loss of earning capacity of 219,690 man years, and this one element of saving is greater than the total investment itself.

In the period 1937-1948 over 14,000 more children would have died in infancy from congenital syphilis had the infant mortality rate due to syphilis during the years 1933-1936 been maintained constant through 1948. It would be presumptious of me to place an economic value on these lives saved. It is estimated that each death from syphilis represents a loss of 17 to 26 years of life.[12] The earning capacity of these man years of life saved represents a sizeable return on the investment. The economic value of the reduction of venereal disease disability from cardiovascular syphilis and from syphilitic blindness and ophthalmia neonatorum defies calculation.

There is evidence that since the development of safe, inexpensive, and easily administered schedules of treatment utilizing penicillin there has been a shift back to the private practitioner so far as the treatment of syphilis and gonorrhea is concerned. This is a shift that may have its advantages in control. However, the practicing physician must utilize more effectively the contact-investigation techniques which have been demonstrated if the downward trend in the attack rate is to continue.

From the point of view of reduction of mortality and morbidity, there is no question that the present program as it is carried on has lessened the problem of syphilis in America and has more than repaid the money invested. From the point of view of prevention of congenital syphilis, however, there is evidence of serious failure of the program and a need for reexamination of the procedures being used to prevent this unfortunate complication.

So far as the prevention of the spread of syphilis is concerned, there has been less improvement over the years. There is obvious need, therefore, for immediate intensification of case-finding activities directed at this phase of the problem. Success here will eventually and automatically resolve the other problems connected with the disease. There is need, therefore, to reexamine our case-finding activities and reemphasize those measures directed at the infectious case.

The Public Health Service, through its Venereal Disease Division, has exerted leadership and stimulation without interference for venereal disease control programs on the local level, where the gains cited have all been made. Along with the decline in the incidence of reported syphilis, there is properly occurring a reduction of funds allotted to the venereal disease control program. However, there is evidence that the reduction of funds is resulting in a deceleration of control activities to such an extent that it may be impossible to maintain the gains that have been made. The American Venereal Disease Association is exploring the feasibility of calling a national round-table conference of interested professional and lay persons from different parts of the country to review without prejudice the present status of the venereal disease control program in this country and to attempt to make recommendations to serve as a guide for the program for the next decade on Federal, State, and local levels. The time is ripe for reviewing the present status of the whole field in an attempt to establish a blueprint for the next few years.

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11. Deleted in proof.

12. Kahn, H. A., and Iskrant, A. P.: Syphilis Mortality Analysis 1933-1945, J. Ven. Dis. Inform. **29**: 193 (July) 1948.

CRITICAL EVALUATION OF PUBLIC HEALTH PROGRAMS IN NUTRITION

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The science of nutrition has made sound progress since 1900. With modest beginnings at the turn of the century, nutrition has eradicated or possesses sufficient know-how to eradicate all the classical deficiency diseases prevalent in the first quarter of this century. Thus, rickets, infantile scurvy, and pellagra—all common diseases in the first quarter of this century—for practical purposes have been eliminated as public health problems.[1] Beriberi and ariboflavinosis, which both paraded in this country under a variety of pseudonyms during the first quarter of this century, are now at the beginning of the third quarter relatively rare diseases in the large charity hospitals, thanks to a rising standard of living, health education, vitamin supplementation, and bread, flour, and corn enrichment.[1] Means are available to prevent simple goiter and most nutritional anemia. They should no longer exist in this country, but unfortunately they do.[1]

Parallel with this virtual eradication of some classical deficiency-disease syndromes has been the marked improvement in maternal, infant, and child health and the virtual elimination as public health problems of many infectious and contagious diseases—typhoid fever, infantile diarrhea, diphtheria, syphilis, and pneumococcus pneumonia. These are no longer major personal or public health problems. It is probably safe to predict that in the lifetime of many of us tuberculosis will be eradicated as a public health problem. These advancements have made arteriosclerosis and its allied diseases our number-one public health problem. Sixty million Americans now living will die of it. A new plague, although an old disease, has arisen to smite us. This fact must be met by drastic changes in the direction of public health practices, no matter how untraditional and unconventional these changes may be.

From the Bureau of Nutrition of the Department of Health.

Read in the Symposium on Critical Evaluation of Public Health Programs before the Section on Preventive and Industrial Medicine and Public Health at the One Hundredth Annual Session of the American Medical Association, Atlantic City, June 15, 1951.

1. Jolliffe, N.; Tisdall, F. F., and Cannon, P. R.: Clinical Nutrition, New York, Paul B. Hoeber, Inc., 1950.

Diet plays an important role in the development and course of many chronic degenerative diseases. Although nutritional factors are not now known to play a direct part in the etiology of malignant neoplasms, it is known that the incidence of oral, gastric, vulvar, and liver malignant neoplasms are somewhat greater in those with chronic glossitis and cheilosis, atrophic gastritis, vulvar leukoplakia, or liver cirrhosis, all of which are due at least in part to malnutrition. Furthermore, life insurance records show that overweight people are more liable to cancer than those of normal weight.[2]

Hypertension is much commoner in those who are obese, and the incidence of cardiovascular renal disease is one and one-half times as common in the obese as in persons of average weight.[2] In hypertensive obese patients weight reduction often results in a lowering of blood pressure, improved cardiovascular efficiency, and a better maintenance of cardiac compensation. An effective obesity-control program might well lower the incidence of cardiac disability.

The precise role of dietary cholesterol in the genesis and development of atherosclerosis is incompletely understood. The recent work of Gofman and his associates [2a] indicates a correlation between a certain cholesterol fraction and atherosclerosis, which, if confirmed, introduces the possibility that atherosclerosis could be attacked effectively in a public health program.

The incidence of diabetes is more than twice as great in obese adults as in persons of average weight. Eighty per cent of diabetes in adults is associated with obesity.[2] The signs of diabetes can be completely eliminated in many obese diabetics by weight reduction, and in many others the severity of the disease is greatly modified. Had obesity been prevented in such persons, it might be expected that the onset would be postponed or perhaps completely prevented in some instances.

That degenerative and cirrhotic disease of the liver may be produced by abnormal diets has been demonstrated repeatedly. Liver cirrhosis is a cardinal feature of Kwishikor, or malignant malnutrition of childhood, so prevalent in equatorial America and Africa. The nutritional state also has been shown to be important in the resistance to toxic agents causing liver damage. Patients with cirrhosis of the liver can be improved markedly, in most instances, by nutritional therapy. These facts make it reasonable to assume that adequate diets would do much to prevent diseases such as cirrhosis of the liver in man.

All these problems of chronic degenerative diseases, as well as many others, must be answered by research and field investigations. How well have the public health services, national, state, and local, met this new challenge? The recent report of a subcommittee of the Food and Nutrition Board [3] has reviewed the situation in our state health departments. This committee points out that most state health departments have personnel devoting either part or full time to nutrition. The organization varies greatly from state to state. In some instances it is confined to one nutritionist assigned to a special phase of a division's program, while in others it has assumed divisional or bureau status comparable to that for other major activities.

The several states vary widely in population, area, wealth, and nutritional problems. Furthermore, the basic structure of administration and operation varies between states. Therefore, it is not practical, nor is it desirable, to suggest a rigid pattern of organization which would be generally applicable to all states. It is possible, however, to envisage a framework of organization within which most states can develop and operate a satisfactory program.

This report suggests that in each state there should be established in the framework of the health department a separate unit corresponding to a major organizational subdivision, such as a bureau or division. Such a unit would assume responsibility for initiating and directing programs appropriate to the nutrition problems of the particular state. The unit approach would enable the health department to define the needs and evaluate the efforts to meet them. Such a unit approach would more likely assure a coordinated program throughout the department.

A public health program for nutrition evaluation and improvement should include a combined medical, dietary, and biochemical approach. Within the staff, therefore, there should be included a physician trained in nutrition and public health, a chief nutritionist with sufficient assistant nutritionists to provide consulting aid to counties, cities, and institutions throughout the state, and either a biochemical set-up or the availability of an adequate university or hospital laboratory equipped to perform the necessary biochemical tests. There should also be arrangements for consultation and services as required from health education specialists and statisticians.

Where practicable, a nutrition field team consisting of a physician, nutritionist, nurse, and technicians should be organized for carrying on field investigations, surveys, demonstrations, and pilot studies. This field team is very important; not only does it provide the necessary contact of the public health nutrition unit with the public and the medical profession, but such activities make it possible to recruit well-trained medical personnel into public health nutrition. Without such a unit, most young, well-trained medical men will not even consider this field for a career.

In states which do not have, or think they do not have, the resources to permit the employment of qualified nutrition personnel for complete staffing of the nutrition unit on a full-time basis, other arrangements for services and consultations should be made. Here the nutrition program may be greatly assisted by working closely with the Nutrition Branch of the United States Public Health Service, when it is reinstituted. In the meantime, assistance of nutrition committees, councils, medical schools,

2. Armstrong, D. B.; Dublin, L. I.; Wheatley, G. M., and Marks, H. M.: Obesity and Its Relation to Health and Disease, J. A. M. A. **147**: 1007 (Nov. 10) 1951.

2a. Gofman, J. W., and others: The Role of Lipids and Lipoproteins in Atherosclerosis, Science **3**: 166-171; 186 (Feb. 17) 1950.

3. A Subcommittee of the Committee on Diagnosis and Pathology of Nutritional Deficiencies: Nutrition Programs in State Health Departments, Pub. Health Rep. **65**: 411-445 (March 31) 1950.

V 14
1951

other state department groups, interested civic organizations, and business and professional associations can be utilized. It is essential, however, that responsibility for direction and operation of nutritional activities be vested in a scientist, specifically a physician, high in the organizational structure of the state health department. He should be able to discuss nutritional problems, their application to different fields, and their relationships to over-all policy on an equal professional footing with other policy-making staff members. The operations should be carried on as a unit activity with close coordination with other units, since nutrition problems are inherent in most health department activities. In certain programs it may be desirable to assign such personnel to other major divisions or even other state departments, such as those responsible for institutional care. However, in these instances such personnel should receive their technical direction from the director of the nutrition unit.

Let us now examine the situation at the Federal level. The Children's Bureau of the Federal Security Agency [4] has been directed by law to investigate all matters relating to the welfare of children and child life. This bureau employs only five nutritionists, but through grants-in-aid the influence of this bureau has been multiplied many times in that it has enabled most states to employ nutritionists in the field of maternal and child life.

The Bureau of Human Nutrition and Home Economics of the Department of Agriculture is interested in the economics of food production and distribution and in food composition and consumption in relation to economic status and the recommended dietary allowances. It concerns itself with menu planning and preparation and the promotion of better balanced and more generous consumption of food for the entire population. Their full-time staff does not include physicians, although they employ a few as medical technicians on a per diem basis. They operate through agriculture experiment stations, departments of agriculture and home economics in extension centers and universities, state and local nutrition committees, and school lunch programs. This activity at the Federal level is efficiently and aggressively directed and promoted.

Since November, 1950, when its Nutrition Branch was liquidated by order of the Bureau of the Budget, the United States Public Health Service has had no field nutrition activities either in its public health or its research branches. Thus, as of today the Public Health Service is completely out of contact with the nutritional health of the people in the United States. Furthermore, it is not in a position to convert the many advances in nutrition knowledge into field programs of practical benefit to the health of the people. The nutrition divisions or bureaus of the various states have no integration, direction, or assistance from a Federal counterpart.

This situation has been roundly deplored by the Council on Foods and Nutrition of the American Medical Association, the Food and Nutrition Board of the National Research Council, the American Public Health Association, and numerous other organizations and private persons who are interested in public health nutrition. These organizations have urged that nutrition activities in the Public Health Service be reinstituted promptly and vigorously. This liquidation of the Nutrition Branch of the United States Public Health Service indicates that the Bureau of the Budget was not sold or could not be interested in the medical aspects of field programs in nutrition. It is not interested to the extent of allowing money already appropriated to be used in field programs on nutrition as a factor in diseases such as hypertension, arteriosclerosis, anemia, and obesity and in field programs on the nutritional therapy of conditions such as burns, shock, irradiation damage, peptic ulcer, and others. The Bureau of the Budget in explanation of its action stated, ". . . the reduction was based solely on the Bureau of the Budget's judgment that in the present circumstances these demonstrations had a relatively low priority." [5]

What should be the nutrition responsibilities of the United States Public Health Service? First, there should be programs which apply existing knowledge and techniques in public health activities so that the people of the United States may benefit from the knowledge already possessed. These should be conducted as a part of overall public health programs and should be the responsibility of that branch of the Public Health Service which is accustomed and experienced in dealing with state and local health departments, namely, the Bureau of State Services. Secondly, research activities are needed to develop methods, techniques, and new knowledge which can be applied in public health nutrition programs, to determine by surveys and examinations the nature and extent of the important nutrition problems of the people, and to solve by technical research the problems which may be obstacles in the public health nutrition programs. This is a proper function of the Research Branch of the Public Health Service, that is, The National Institutes of Health. May an enlightened Congress soon direct and provide for some such public health nutrition programs.

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4. Haseltine, M. M.: Nutrition Work of the Children's Bureau, Nutrition. Observ. 11: 22-24 (April) 1950.

5. Memorandum from R. L. Seggel, Bureau of the Budget, to Kenneth Miller, Budget Office, Federal Security Agency, on Reduction in the Public Health Service Program of Nutrition Demonstrations, Dec. 7, 1950.

Estrogens and Cancer.—It has not been shown that estrogen effects lead to cancer in the human being, but there are several interesting suggestive relationships. In the histories of individuals developing carcinoma of the endometrium, menorrhagia, late menopause, and hyperplasia of the endometrium, all conditions associated with hyper- or persistent estrinism, appear much more commonly than they do in women without carcinoma of the endometrium. The incidence of carcinoma of the endometrium in cases of granulosa cell tumor of the ovary is four or five times the general incidence. In addition, there have been several cases of carcinoma of the endometrium reported following prolonged estrogen therapy. It is also known that carcinoma of the uterus is relatively rare in women who were castrated before they reached the age at which they would normally cease menstruating. Finally, one of the first observations suggesting that there might be a relationship between ovarian function and the growth of breast cancer was that occasionally large, fungating mammary cancers recede in a remarkable fashion after castration alone.—Daniel G. Morton, M.D., The Relation of Pregnancy to Malignancy, *Journal of the Kansas Medical Society*, September, 1951.

RESPONSIBILITIES IN HOSPITAL CONSTRUCTION

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Dr. Jean S. Felton, secretary of the Section on Preventive and Industrial Medicine and Public Health, tells me that the primary goal in the presentation of this symposium on a critical evaluation of public health programs is to have the participants review critically and objectively the actual progress being made in various public health programs throughout the country. He tells me further that the discussions should be "earthy, completely realistic, and fact facing." I assure you that no terms of reference could be more to my liking since those are the conditions under which I like to discuss any and all problems with which I may be concerned.

I am particularly pleased to have this opportunity to discuss the Hill-Burton Hospital Survey and Construction Program since I was one of the original hospital representative members of the Federal Hospital Council. This council is composed of eight individuals, whom I might modestly describe as being well-known in their respective fields; four of these are persons interested in the operation of hospitals or in the production of hospital service, and the other four represent the general public interest. The Surgeon General of the Public Health Service is the ex officio chairman of the council and is responsible for the over-all administration of the program.

The functions of the council are both controlling and advisory. They are controlling in that no administrative regulations may be issued by the Surgeon General except by and with the approval of the council. In this respect, the Federal Hospital Council is unique in the Federal government. No other citizen council, to my knowledge, has such authority conferred by Federal law.

In setting up this symposium, Dr. Felton has stated six general questions as a framework within which each of the seven program subjects might be discussed. I believe that these six questions express very well the points which we need to develop in our consideration of the Hill-Burton Hospital Survey and Construction Program.

ACCOMPLISHMENTS OF PROGRAM

The first question is, "Has the Hill-Burton Program accomplished the purpose for which it was originally established?" In order to answer this question, it is necessary to go back to the year 1940. At that time, the nation was just emerging from a 10-year period of acute depression. During that decade, there was very little new hospital construction throughout the country. While the population was increasing along with the demand for hospital care, our hospital resources were virtually standing still. Even worse than standing still, they were going backward in the neglect of normal maintenance. This fact was forcibly driven home to us when, in 1940, we entered a period of mobilization and preparations for war, which began the following year. We found then that we were totally unprepared to meet the extraordinary needs for hospital and public health care in areas vital to the mobilization of the nation's forces. We had to meet this crisis wherever and whenever an emergency arose through direct Federal aid to the community concerned. This Federal aid consisted of from partial all the way to complete Federal financing of new hospitals and health centers. Under these conditions, surveys of need were at best sketchy and the interrelated needs of other communities could be given scant consideration.

Realizing this, the American Hospital Association, in cooperation with the other national hospital associations, decided that it would be necessary to make a thorough evaluation of the hospital problem which would be facing the nation at the end of the war. Accordingly, early in 1943, the American Hospital Association established a committee on postwar planning. It was the function of this committee to determine ways and means of appraising the nature and extent of the hospital problem. This committee decided that an independent fact-finding commission was the means of choice. It then enlisted the aid of a number of philanthropic foundations, and through their financial assistance established what was known as the Commission on Hospital Care. This commission was composed of 20 nationally-known individuals representing a rather complete cross section of American life and interests. The American Medical Association, I might add, was well represented. The terms of reference of the Commission on Hospital Care were quite broad. Briefly, they were to evaluate the current situation regarding hospital service throughout the country and to recommend measures for its improvement.

The commission put in two years of intensive survey work on this problem, beginning in October, 1944, and ending its work in October, 1946. The report of the Commission on Hospital Care represents a landmark in the development of better hospital care in the United States.

Among the many important findings of the Commission on Hospital Care was the fact that the nation was short of hospital beds of all types by many hundreds of thousands, and that the distribution of existing hospitals was very spotty. The commission found further that the increasing technical requirements of modern medicine were such that the deficiency of hospital beds throughout the country could not be met through the traditional channels of private philanthropy. The only alternative, the commission found, was a program of Federal assistance in the construction of additional hospital beds.

The three national hospital associations—the American, the Catholic, and the Protestant—accepted these recommendations, but I am sure not without considerable misgivings. Never before, except in brief periods of emergency, had the Federal government entered into this field which had historically and traditionally been a matter of local responsibility. The question uppermost in everyone's mind was, "Can the hospitals accept Federal assistance and still maintain their autonomy and sense of local responsibility which are the *sine qua non*

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V 14
1951

of effective hospital operation?" We all felt that it could be done if handled in the proper manner, and, since we had no alternative, preparations were made to develop a Federal program which would accomplish the desired end without disrupting our traditional democratic processes.

I hope it is clear to everyone that the Hill-Burton legislation was not a bill concocted by the politicians and sprung on an unsuspecting public. On the contrary, it was strictly a grass-roots movement spearheaded by the officials of the various hospital organizations and concurred in and assisted by the American Medical Association. The actual drafting of the legislation occupied the intense interest of these organizations for a period of many months. Chief among the objectives of the Hill-Burton legislation were the following:

1. That major controls be vested in the state governments rather than in the Federal government.
2. That exact surveys of need should be carried out prior to any construction. Once the needs had been determined, construction should proceed in order of relative priority based on need.
3. That each community should be required to furnish a reasonable share of the cost.
4. That the hospitals constructed should represent the latest thinking in modern design and construction.

In keeping with the nonpolitical nature of this legislation, even its sponsorship in the Senate was bipartisan. With this background, it is not surprising that no opposition was encountered to the passing of this legislation, which was enacted into law in August, 1946.

Is the Hill-Burton Program, then, accomplishing what was expected of it? It was expected that the states would make a careful survey of their present and long-range needs for hospitals and health centers. This has been done for the first time in history, and I may observe here that the surveys showed a total hospital bed deficiency of nearly 900,000 beds of all categories. It was expected that first needs would be met first and, generally speaking, rural communities were in the greatest need. This expectation has been met admirably. Approved projects have been in order of need, and the great majority have gone into rural areas. Some 1,500 projects, all told, have been approved. When completed, these will add about 72,000 beds to the nation's resources; in addition, some 300 health centers will be added. I can say, without fear of contradiction, that the Hill-Burton Program has accomplished the purpose for which it was intended far beyond the expectations of all of us in the hospital field.

RETURN ON INVESTMENT

Dr. Felton's second question was, "Does the Hill-Burton Program represent a sound investment from the point of view of return from the money involved?" Since 1947, Congress has appropriated 385 million dollars for this purpose. The average matching funds contributed by states and local communities have been about double this amount, involving a program of slightly more than a billion dollars invested in new hospital and health center facilities since 1947. Is this a sound investment? In the first place, it is virtually impossible to place a price tag on health. We can only consider whether the investment is sound in a narrower sense, that is, in relation to the cost of other hospital units constructed outside the Hill-Burton Program. Although the new Hill-Burton hospitals are models of modern design and equipment, the cost compares very favorably with those constructed outside the program. Actually, the average cost of hospitals under this program has been about $13,000 per bed, in the case of new general hospitals. These costs, as many of you will recognize, are considerably below that of many other hospitals built independent of Federal aid.

PROGRESS IN PUBLIC HEALTH

The third question is, "Is the Hill-Burton Program spelling progress in public health?" Although in the past we perhaps have not always been accustomed to thinking of such things as hospitals in the same category as public health, I am doing so here. Anything that contributes to the health of the general public is public health, and in this, hospitals are an outstanding example. We can say without any hesitation whatsoever that the Hill-Burton hospitals are contributing to public health, both directly and indirectly. Most of the new hospitals are in areas which never before had adequate hospital service. In many parts of the country, we are seeing health centers designed primarily within the concept of preventive medicine built as an integral part of these hospitals, a movement which in my opinion is long overdue.

ALTERATION OF PROGRAM'S FORMAT

The fourth question is, "Should the format of such a program be altered?" The Hill-Burton Program is widely considered as being one of the most ideal pieces of health legislation in existence for the following reasons: It recognizes a large element of state and local determination without unnecessary Federal controls. It has brought about a better understanding and spirit of cooperation between hospitals and government—state, local, and Federal. It stimulates local communities to help themselves, thus assuring continued interest and support of these new hospitals.

RESPONSIBILITIES OF PUBLIC HEALTH PERSONNEL

The fifth question is, "What are the responsibilities of public health personnel?" This question may be applied to the responsibilities of the state agencies administering the Hill-Burton Program; with relatively few exceptions these agencies are the state departments of public health. Their responsibilities are quite clearly defined. I shall mention just a few of these:

1. A continuing survey of hospital and public health requirements and a preparation of plans to meet these needs.
2. Consultation with local communities as to the size and design of hospitals needed and as to the requirements of staffing and operation.
3. The approval of individual projects. I wish to make it clear that the selection and approval of projects within the state is a function of the state, and not of the Federal government.
4. Improvement in the quality of hospital service through licensure regulations.

STATE EMPHASIS VERSUS NATIONAL EMPHASIS

The sixth and last question proposed is, "Should emphasis be more at a local level (in this instance meaning state), or national level?" In my opinion, the present balance of emphasis and responsibility is ideal. The more important of the state responsibilities I have just mentioned. Federal responsibilities are limited to such broad considerations as are necessary to keep a consistent approach throughout the nation; this includes the approval

of state plans and the approval of architectural plans, as well as expert consultation on any and all phases of the program as may be required by the states. The approval of architectural plans, incidentally, is, in my opinion, one of the most fruitful products of the Hill-Burton Program. Although many hospital administrators, and architects in particular, viewed this move with some apprehension in the beginning, they are now all staunchly behind the United States Public Health Service architectural regulations. In answer to an additional question, "Has it been wise to turn hospital design and utilization over to lay personnel?" I wish to make it completely clear that the pattern of hospital planning, design, construction, utilization, and administration under the Hill-Burton Program is in nowise different from that which prevailed before or which prevails now in hospitals in no way connected with the Hill-Burton Program, except for better surveys of need and better planning, design, and construction of the hospitals under the program. Otherwise, these functions are carried out by the same types of individuals as in the past. If there is any discernible difference, it is that more, rather than less, medical thinking has gone into the design of hospitals.

COMMENT

I am thoroughly in favor of the Hill-Burton Hospital Survey and Construction Program, both in principle and practice. It is true that some of us who work in larger cities would have liked to have had more help for our hospitals from this source. We realize, nevertheless, that the basic purpose of the program is not to build more beds in the larger metropolitan centers until the rural needs were more nearly satisfied. We are all hopeful, however, that the program will be continued and that eventually, when the rural needs have been more nearly satisfied, we will be able to get assistance for the expansion of our teaching facilities. Both the Federal and the state authorities are fully aware of the vital importance of the teaching institutions in maintaining the flow of doctors, nurses, and other personnel into our hospital system. They are all looking forward to meeting that need just as soon as circumstances will permit.

All of us in the hospital field who have a special interest in this program have been happy to note that the American Medical Association has actively supported it from the very beginning. Only a few months ago, when the possibility of increasing the annual appropriation from 75 million dollars to 150 million dollars was under consideration, the American Medical Association's Legislative Committee vigorously supported this action.

CONCLUSION

In conclusion, the Hill-Burton Program is of such importance to our entire medical economy that its complete understanding and full support are warranted by everyone who is concerned with bringing better health to the American people.

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V 14
1951

MATERNAL AND CHILD HEALTH PROGRAMS

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Maternal and child health programs really need to be discussed in relation to public health programs in general, since they represent phases, although important phases, of general public health activity. Public health begins when certain conditions exist: First, medicine accepts a theory of rational causation of disease, indicating a point of application for preventive measures. Then scientific methods become available for the prevention, amelioration, or cure of disease. Finally, the community accepts responsibility for the distribution of appropriate services. Health departments and their programs take their origin and growth from these three principles.

A hundred years ago maternal and child health programs were unknown. It took the combined efforts and persistence of Simon, Southwood Smith, Pasteur, Semmelweis, Jacobi, Holmes, Baker, Rotch, and Franklin Roosevelt to establish the foundation on which modern programs of mother and child care rest. Public health operations in the child health field antedated those in maternal health, for a number of reasons. Concern for the mother was reflected in improvements of hospital conditions and facilities and education of physicians to eliminate the risk in delivery itself. The success of aseptic and earlier antiseptic techniques in reducing obstetric risk obscured other factors contributing to maternal mortality susceptible of antepartum control. Besides, hazard in childbirth was accepted—the possibility of childbirth without danger had to await acceptance of pregnancy as the summer months.

Developments in pediatrics, on the other hand, pointed almost immediately to techniques of prevention. The shocking infant mortality rates, with the concentration of infant deaths in the summer, gave sharp impetus to preventive thinking. New York City in 1907 had an infant mortality rate of 145 in January and 310 in August.[1] Infectious disease caused one-half the infant deaths at that time, and the classification "diarrhea" represented practically the whole of the excess mortality in a physiological function.

The first baby health station was established by Sara Josephine Baker in 1908 in New York City. This official public health function was preceded by privately endowed milk stations in Paris in 1892 and in New York in 1898. The purpose of the baby health station originally was to provide clean milk, modified formulas, and education.[1] In the growth of these stations, as well-baby clinics, child health conferences, or what you will, the original purpose has not been lost or abandoned, only

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1. Baker, S. J., in W. Park: Public Health and Hygiene in Contributions by Eminent Authorities, Philadelphia, Lea & Febiger, 1928.

transmuted to meet changing needs. By definition today, a well-baby conference concerns itself with general health supervision of all infants and preschool children with emphasis on (1) prevention of communicable disease, (2) establishment of sound nutrition and good food habits, (3) emotional adjustments of mother and child, (4) providing correction of physical defects and detection of incipient deformities.[2]

The care of the pregnant woman and the provision of prenatal services grew naturally out of child health services, as a means of reaching the mother before the child was born. In this way it was hoped to reduce prematurity (which caused 30% of infant deaths), to make the mother aware of her child's needs early enough to assure delivery of a sturdy, healthy infant, and to wipe out congenital syphilis and reduce maternal mortality. In the intervening years infant mortality has been reduced to a fraction of what it was and maternal mortality reduced to an infinitesimal part of previous devastation (Tables 1 and 2 [3]). "From 1930 to 1945 deaths from diphtheria dropped from approximately 15 to 4 per 100,000. The death rate among preschool children has declined from approximately 20 deaths per 1,000 population in 1900 to . . . approximately 1 in 1945." [4] Obviously the public health programs of maternal and child care did not of themselves produce the results that were accomplished.

The filtration and chlorination of community water supplies, the installation of community sewage-disposal systems, pasteurization of milk, increasing availability and utilization of hospitals for delivery (90% of Baltimore's babies were born in hospitals in 1949), all operating during the same period of time as the maternal and child health programs, played major parts in this magnificent achievement. Certainly the discovery and wide use of antibiotics more recently contribute heavily to the effect. However, the immunization programs, stimulated and encouraged by the child health centers, did their part too. It has to be pointed out in this connection though, that in the most recent report on child health services (for the years 1945-1946)[4a] it is stated that only 1.5% of the total volume of child care is given by health agencies and only 6% of infants and preschool children receive any services at all from the well-child conference.

TABLE 1.—*Infant Deaths by Broad Cause Groups, Baltimore, 1929 and 1949*

Cause Group	1929 *		1949	
	% of All	Rate †	% of All	Rate †
Infectious disease	45.4	33.12	17.3	5.4
Congenital malformation	7.0	5.08	14.0	4.37
Prematurity	28.2	20.54	33.2	10.37
Injury at birth	5.7	4.15	13.8	4.33
Others	13.7	9.97	21.7	6.79
Total	100.0	72.86	100.0	31.26

* Recorded births.
† Deaths in first year of life per 1,000 live births.

Under the circumstances, one cannot assess properly the role that maternal and child health programs have played and continue to play in the prevention of disease and the postponement of death. But there can be no doubt that by example and demonstration these programs have brought home to the people and the practicing physician the kind and quality of service that is necessary for good preventive medicine. In the development of the programs emphasis has shifted from the obstetrician's goal of hospital delivery for every pregnant woman, for example, to adequate prenatal supervision for every pregnant woman. Well-child care has moved from the early emphasis on feeding (really sanitation considerations) to emphasis on immunization and prevention of communicable diseases other than diarrhea, a fairly complete program of health supervision, and a concern for the emotional and social well-being of the child in addition to the physical.

TABLE 2.—*Maternal Deaths by Broad Cause Groups, Baltimore, 1925-1929 and 1945-1949*

Cause Group	1925-1929		1945-1949	
	% of All	Rate *	% of All	Rate *
Toxemia	18.4	0.97	19.5	0.21
Hemorrhage, trauma, shock	39.6	2.10	35.4	0.37
Sepsis	35.1	1.86	34.5	0.37
Others	6.9	0.37	10.6	0.11
Total	100.0	5.3	100.0	1.06

* Maternal deaths per 1,000 live babies.

In view of these facts, how can existing programs be evaluated? First of all, it must be recognized that the general rate of decline in the mortality rates has not been equal for all classes of Americans or in all areas. While rural residents are beginning to share the advantages of modern life, their health record has not kept pace with the record of urban dwellers. "Children in or near cities receive 50% more care than those in isolated counties."[4] Typhoid fever, malaria, and hookworm are predominantly rural diseases. Infant mortality in cities of 100,000 or more in 1948 was 28.9 and in places of 2,500 to 10,000 population, 36.[5]

Another significant differential mortality rate is evidenced in the distinct disadvantage of the Negro. The white infant mortality rate for 1948 was 29.9 (26.6 in cities of 100,000 or more) and the nonwhite rate 46.5 (56.3 in places of 2,500 to 10,000 population).[5] The striking disparity between the infant mortality rate of the white city dweller and the nonwhite small-town dweller (26.6 as compared with 56.3) should give pause to any premature self-congratulations. Finally, there is the economic differential, which militates against equality of care or service for the low-income groups. The percentage of hospital births and correlated infant and maternal mortality is associated with availability of facilities.[6]

Over 70% of children registered in Baltimore City Health Department well-baby clinics were Negro in 1949,[7] although only 20% of the population is Negro. Here low income and the pattern of segregation both

2. Smillie, W. G.: Preventive Medicine and Public Health, New York, The Macmillan Company, 1947.

3. Personal communication to the author from the Statistical Section, Baltimore City Health Department.

4. Hubbard, J. P.: Highlights of American Academy of Pediatrics Study and What They Mean for Improvement of Child Health, Am. J. Pub. Health **40**: 385 (April) 1950.

4a. American Academy of Pediatrics, Committee for the Study of Child Health Service: Child Health Services and Pediatric Education: Report of the Committee; with the Co-operation of the United States Public Health Service and the United States Children's Bureau, Oxford, Commonwealth Fund, 1949.

5. Infant Mortality by Race and by Urban and Rural Areas, Nat. Office of Vital Statistics, Special Report Vol. 35, No. 17, Federal Security Agency, United States Public Health Service, Oct. 16, 1950.

6. Mott, F., and Roemer, M. I.: Rural Health and Medical Care, New York, McGraw Hill Book Company, Inc., 1948. Ciocco, A., and Altenderfer, M. E.: Birth Statistics as Index of Interdependence of Counties with Regard to Medical Services, Pub. Health Rep. **60**: 973 (Aug. 24) 1945.

7. Baltimore City Department of Health, 135th Annual Report, 1949.

play a part. Few, if any, Negro children in the eligible age group receive any well-baby care other than in city clinics, yet the number of Negro children seen in these clinics is only a fraction of the children in that age group. And what of those parts of the country not so liberally supplied with health department services as Baltimore? In isolated rural communities of Maryland only one-third as many children receive well-child care as in metropolitan adjacent counties.[8]

Whatever deficiencies programs of this sort have, they stem mainly from the unfortunate traditional separation of care for the well and the sick. In practice today two sets of people are concerned with the child, generally in no contact with one another and without real knowledge of the whole child. The ideal goal, unification of child care, is to have one physician or a group of physicians undertaking complete supervision of the child in health and disease. The programs that now exist, however, are necessary for all the reasons that have been given: technical separation of care and sectional, economic, and rural deficiencies. The existing programs will continue until physicians develop the same enthusiasm and qualify themselves for health supervision as they have developed and qualified for in care of the sick.

Ultimately, the preventive medicine minded practitioner will assume the physical and emotional supervision in the field of maternal and child health in his office or in a group-practice center. By giving parents guidance and support, he may reduce the need for so many public health clinics or conferences. Right now three-fourths of private medical care of children is in the hands of general practitioners.[8a] The preventive medicine minded practitioner of the future, whether he is a generalist or specialist, will have to be oriented in the field of health promotion and disease prevention and not tied to therapeutic medicine as completely as he is today. The sectional, racial, and economic groups underprovided for now and in need of community service programs will have been fitted into the private practitioner's office through necessary organizational changes. Until that time, however, the prenatal and the well-baby clinic must continue to provide and extend existing services. In Baltimore last year as many women went without prenatal care at all as were seen in the Health Department clinics.

In a period of crisis and clash of arms, when good physical and emotional development of children is of the utmost importance, value and priority of programs assume increasing weight. Three questions will have to be asked and answered: 1. Why are we doing this? 2. Are we doing it well? 3. What else should we do?

Both local and national officials bear responsibility for the future development of maternal and child health programs. Milk and water sanitation cannot be dissociated from child hygiene. Availability of hospital beds and training of obstetricians cannot be divorced from maternal-care programs. Since maternal and child health programs are aspects of total public health programs, interdependent and having no really independent existence, for planning purposes, national organization is obviously necessary. Without national assistance local programs tend to be chaotic and to run off into channels of lesser importance, and communities with the greatest need have the least resources. Thus, on a national level consideration can be given varying public health needs in different parts of the country and assistance adjusted in accordance with those needs and the ability of the specific community to meet them. However, programs need to be supported, encouraged, and strengthened at the local level. Without local interest and local support, public health programs have no reality and fail to penetrate into the depths of local need.

84 Gun Hill Rd.

8. Maryland Chapter, American Academy of Pediatrics: A Study of Child Health Services in Maryland, Baltimore, 1950.

V 147
1951

TREATMENT OF RHEUMATOID ARTHRITIS WITH NITROGEN MUSTARD

PRELIMINARY REPORT

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One of us (J. D.)[1] recently reported the initial results obtained in the treatment of rheumatoid arthritis with nitrogen mustard. It was believed that this treatment might well be useful because of the well-known effect of cortisone and corticotrophin (ACTH), since, in the similar effects they produce, a certain relationship could be seen to exist between these hormones and nitrogen mustard.

It is a fact that one of the most constant effects of nitrogen mustard, observed in the treatment of Hodgkin's disease, is the progressive decrease in lymphocytes —they may even disappear completely—and the decrease in the eosinophils. The same results can also be obtained with the hormones ACTH and cortisone.[2] On the other hand, Chanutin and Ludewig [3] have demonstrated that the suprarenal cortex undergoes a hyperplasia when acted upon by vesicating substances, while Karnofsky and his colleagues [4] have reproduced symptoms similar to those of the "alarm" syndrome when they have used nitrogen mustard. Recently, Betz, Heusghem and Lecomte [5] have also reported on the adrenal hyperplasia and the increase in 17-ketosteroids with the use of nitrogen mustard.

From the Medical Clinic and Institute for Medical Research, Madrid University.

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In the first place, two patients with rheumatoid arthritis were treated; both cases were chronic and had been treated by different methods, especially by chrysotherapy and the association of desoxycorticosterone (doca®) acetate U. S. P. and ascorbic acid, with negative results. One patient had been suffering for 11 years during the last five of which she had been bedridden with extremely painful swelling of the knees, ankles, and finger joints. There were no obvious results after the first injection of 6 mg., apart from stopping a diarrhea that had persisted for several months. The second injection, on the other hand, produced an astonishing effect: the patient's condition was rendered almost painless, the joint swellings were reduced considerably, she began to move her limbs and fingers, and she rose from her bed and could walk. From the fourth injection of this course of treatment the painful symptoms disappeared except for a slight ache in one knee, but the patient could move her arms and legs with perfect ease. When she was seen one month later, her condition was still satisfactory.

The other patient had simultaneous ankylosis of the hip joints and lumbar part of the spine and painful swellings at the other joints, which rendered him immobile. He, too, became free of pain at the second injection, and he could move his previously swollen joints, although, as was to be expected, the bony ankylosis of the hips and lumbar part of the spine remained unaltered. He did, however, recover all movement of the arms, wrists, and other affected joints.

The results were still evident when he was seen two months after the treatment had been stopped.

Since we treated these two patients we have tried the same procedure on seven more. The spectacular results obtained in the first patient, with disappearance of pain and of the exudative phenomena, as well as the recovery of joint movements, have been achieved in four patients, while in two others the improvement has been less obvious owing, as in the second case, to bony ankylosis or irreversible muscular retraction. In the remaining patient there has been improvement only insofar as the pain has disappeared and the exudative phenomena have regressed.

So far we have had no opportunity to treat patients with cortisone and cannot say if its effects are more marked than those we have observed with the use of nitrogen mustard, but we should think it difficult: we have never obtained such results with any of the other therapeutic measures that we have employed up to the present. The effects of nitrogen mustard on rheumatism parallel those on the blood cell count; the fall in eosinophils from an initial count of 100-200 to values of 20-50 is usual after approximately the third injection and is even greater in cases in which the drug's effect is more intense. The sedimentation rate increases initially and then falls, but we have never seen it come down to normal. The elimination of 17-ketosteroids in urine is increased during treatment.

Inspired by certain similarities, we have begun to apply nitrogen mustard in cases of prolonged status asthmaticus. The first patient we saw had been in a sorry plight for the past three months before examination. For the last few nights she had not been able to lie down, and in the daytime she had to have several injections of epinephrine U. S. P. (adrenalin®) and ephedrine U. S. P. The night after her first injection of nitrogen mustard she found herself greatly improved and was able to sleep comfortably. On the following morning she had no asthmatic symptoms, and all palliatives were suspended. After the second injection she felt perfectly well and, at this writing, still does. Her eosinophil count dropped from 200 to 50 after the first injection. The second patient was not so seriously ill, but she had constant dyspnea and a persistent cough with diffuse breath sounds. After the first injection her dyspnea, cough, and auscultatory signs disappeared.

It is still much too soon to be able to draw conclusions as to the potentialities of this therapeutic measure, but we maintain that the dramatic results obtained in five, and the great improvement in three, out of nine patients treated so far are sufficient justification for drawing attention to the treatment so that its effects can be checked by other observers. The results obtained in our two asthmatic patients confirm the versatility of nitrogen mustard in that its action can be extended to the same diseases as that of ACTH. Green [6] has recently pointed out the relation between the activity of these hormones and their antimitotic action, and this would be a further argument in favor of this hypothesis insofar as both ACTH and cortisone have an antimitotic, lympholytic, and eosinopenic action.

We have a large number of patients under treatment at the present moment and hope soon to be able to give a detailed report on our observations.

SUMMARY

A report is given on the remarkable results obtained with the use of nitrogen mustard in the treatment of rheumatoid arthritis. Of nine patients treated, five improved extraordinarily, with complete disappearance of the pain and swelling of the joints and recovery of normal movement. In three other patients the ensuing improvement was considerable, even though not so complete. Two patients with status asthmaticus were also treated, the dyspnea disappearing after the first injection.

Madrid University.

6. Green, H. N.: Brit. M. J. 1: 1165, 1950.

Prevention of Mumps.—Results indicate then that immunity to mumps can be induced by subcutaneous vaccination with inactivated virus, that the resistance thus produced is transitory; and that the duration of immunity depends on the height of the antibody level attained. From these suggestions it is likely that more extensive protection may be achieved if the interval between vaccination and exposure is less than nine months, but whether it will be possible to immunize in the face of an epidemic in order to prevent further generations of cases or to abort the disease in individuals vaccinated shortly after exposure remains to be ascertained.—Gertrude Henle, M.D., and Werner Henle, M.D., Studies on the Prevention of Mumps, *Pediatrics*, July, 1951.

RUPTURE OF CORPUS LUTEUM WITH PRODUCTION OF HEMOPERITONEUM

REPORT OF NINETEEN CASES

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Hemoperitoneum resulting from rupture of a corpus luteum is not an uncommon condition, although the total number of cases reported in the literature is relatively small. In the majority of these cases erroneous preoperative diagnoses, such as acute appendicitis, ruptured extrauterine pregnancy, and salpingitis, were made. Morton,[1] in 1931, collected 26 cases of ruptured corpus luteum and found that in all of them the condition had been misdiagnosed. In none of the 11 cases of ruptured corpus luteum reported by Kretzschmar and Arnell,[2] in 1936, was the condition recognized preoperatively. Likewise, an erroneous diagnosis was made in the 10 cases of bleeding corpus luteum reported by Israel,[3] in 1937, as well as in the 15 cases reported by Pecman [4] and the 12 cases reported by Weil.[5] In our series, of 19 cases, a correct diagnosis was established in only one. This preponderant error in diagnosis is probably due to the lack of appreciation of the clinical entity of ruptured corpus luteum. While follicular rupture, better known as *Mittelschmerz*, is well recognized, it seems that corpus-luteum rupture is seldom considered as a possibility.

In an attempt to reevaluate the symptoms and physical findings in patients with ruptured corpus luteum and to bear out some of the pertinent data on the subject, the following study was undertaken.

The material is from the department of gynecological surgery of St. Joseph's Hospital in Milwaukee, covering the period from January, 1944, to June, 1950. During this period there were 19 patients with intraperitoneal hemorrhage resulting from rupture of the corpus luteum. In all these patients the ovarian lesion was confirmed by microscopic examination of the specimen submitted to the laboratory.

ANALYSIS OF CASE HISTORIES

The ages of the patients ranged from 13 to 45 years (Table). Three patients were under 20; 11 were between 20 and 30; four were between 30 and 40, and one was over 40. The average age was 26. Seventeen were married, and two were single. Most of the patients had not been pregnant or had borne but one child. Eight were nulligravid and nulliparous; five, primigravid and primiparous; three, secundigravid and primiparous; one, secundigravid and secundiparous; one, trigravid and nulliparous, and one, quadrigravid and quadriparous.

The menstrual history revealed that 13 patients had regular periods up to the onset of the ovarian rupture, and four, irregular periods. Patients with regular periods had cycles of 26 to 30 days except one, who had a 35-day cycle. Two of the patients were pregnant at the time of rupture—the gestation period being two months for one and five weeks for the other. Rupture of the corpus luteum occurred anywhere between the 16th day of the cycle and the first day of menstruation, in the majority occurring between the 18th and the 24th day. In the patient with the 35-day cycle, rupture took place on the first day of the flow.

Clinical Findings.—The blood pressure taken on the patient's admission showed slight hypotension in a few cases, while in the majority it was within normal limits.

The pulse rate ranged from 72 to 110 a minute, with an average of 87 a minute. The temperature was normal or only slightly elevated in all the cases. The highest temperature was 99.6 F.

Moderate anemia was seen in a number of patients. The red blood cell count ranged from 3,370,000 to 4,990,000 per cubic millimeter, with an average of 4,070,000. Nine of the patients had a count below 4,000,000. The leucocyte count was within normal limits in 12 patients and moderately elevated in seven patients, ranging from 10,550 to 23,050 per cubic centimeter. The differential cell count was not significantly altered.

Pain was a constant symptom in all the patients and varied in intensity with each one, depending upon the amount of hemorrhage. The pain was characteristically sudden in onset and was usually confined to the lower part of the abdomen. In 12 patients the pain was definitely severer on the right side. In one of the patients the abdominal pain was generalized and radiated up into the shoulder.

The hour of day varied at which onset of pain occurred. In four patients the pain developed early in the morning and awakened them from sleep, and in one the pain occurred suddenly during intercourse. The pain in several patients was characterized as cramping. Two patients had the pain intermittently for two to three days before it became severe enough for them to seek admission to the hospital.

Nausea was a common symptom and was present in 14 patients. On the other hand, vomiting was uncommon and was present in only two patients. Backache was a minor complaint and was present in five patients. Dysuria and urgency of urination following the ovarian rupture were noted in three patients.

The abdomen was soft, flat, or only slightly distended. Tenderness in the lower part of the abdomen was a constant finding. It was more pronounced in the right lower quadrant in 10 patients and in the left lower quadrant in three patients, and was equal on the two

From the Departments of Surgery and Gynecology, St. Joseph's Hospital, and the Marquette University School of Medicine.

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V 14
1951

sides in six patients. Rebound tenderness was recorded as being present in six patients.

The time from onset of the abdominal pain to surgical intervention varied from 12 to 96 hours. In 12 patients surgical operation was performed within the first 24 hours; in five patients, within 48 hours, and in two patients it was delayed as long as four days. Fifteen of the patients walked into the admitting room of the hospital, and four were brought in by wheel chair.

Preoperative Diagnosis.—A preoperative diagnosis of ruptured corpus luteum was made in only one case. This correct diagnosis was established by a physician who had had an opportunity to see a similar case previously and

The right ovary was found to be ruptured in 14 patients and the left in five. All the lesions were cysts or hematomas of the corpus luteum which varied from 2.0 to 4.2 cm. in diameter. Oophorectomy was performed in 13 patients; resection of the cyst, in three; salpingo-oophorectomy, in two, and simple closure of the rent with mattress suture, in one.

Abortion occurred in one of the pregnant females (Case 10; Table) after oophorectomy. It was necessary to extirpate the entire ovary in this case because there was strangulation by torsion of the pedicle, in addition to the rent present in the corpus luteum, from which active bleeding was taking place. In the other pregnant

Clinical Data on Nineteen Cases of Ruptured Corpus Luteum

Case No.	Patient	Age	Para Gravida	Day of Rupture in Cycle	On Admission			Hemogram	Nausea	Vomiting	Tenderness	Rebound Tenderness	Rigidity	Preoperative Diagnosis	Right or Left Ovary
					B. P.	Pulse	Temperature (F.)								
1	D. S.	27	P 0 G 0	35	102/70	96	98.6	R: 4,500,000 W: 5,650	+	+	+	..	—	Acute appendicitis	Right
2	T. K.	21	P 1 G 1	18	134/82	68	98.4	R: 4,190,000 W: 6,450	+	—	+	+	—	Ectopic pregnancy	Right
3	N. M.	34	P 0 G 3	..	112/70	90	98.2	R: 3,720,000 W: 6,350	+	—	+	..	—	Acute appendicitis	Right
4	T. H.	30	P 1 G 1	..	125/75	96	99.6	R: 3,810,000 W: 9,000	+	—	+	+	—	Endometriosis	Right
5	L. S.	19	P 0 G 0	24	112/64	100	99.4	R: 3,870,000 W: 10,550	—	—	+	..	—	Acute appendicitis	Right
6	M. F.	19	P 0 G 0	24	120/55	92	98.4	R: 3,990,000 W: 5,550	—	—	+	+	—	Acute appendicitis	Right
7	J. A.	29	....	22	100/70	72	98.6	R: 4,810,000 W: 8,950	..	..	+	..	—	Cystic ovary	Left
8	L. F.	21	P 0 G 0	16	110/70	84	99.2	R: 3,910,000 W: 10,400	+	—	+	..	—	Acute appendicitis	Right
9	D. O.	27	P 1 G 1	22	116/70	88	99.0	R: 3,870,000 W 11,300	+	—	+	..	—	Acute appendicitis	Right
10	J. H.	22	P 1 G 2	Pregnant 5 wk.	115/75	72	98.6	R: 3,850,000 W: 7,450	..	..	..	..	—	Ectopic pregnancy	Right
11	J. Y.	13	P 0 G 0	..	120/80	88	97.8	R: ..... W: 17,500	—	—	+	..	—	Acute appendicitis	Right
12	L. S.	21	P 0 G 0	21	98/65	75	....	R: ..... W: 16,550	+	—	+	..	—	Acute appendicitis	Left
13	R. W.	45	P 4 G 4	20	118/64	100	98.6	R: 210,000 W: 5,750	+	+	+	..	—	Acute appendicitis	Left
14	M. A.	26	P 0 G 0	21	120/80	110	99.0	R: 4,130,000 W: 16,000	—	—	+	+	—	Acute appendicitis	Left
15	G. K.	26	P 1 G 1	18	100/65	80	98.0	R: 4,990,000 W: 19,950	..	..	+	..	—	Acute appendicitis	Right
16	L. E.	33	P 1 G 2	Pregnant 8 wk.	94/60	96	98.6	R: 3,980,000 W: 8,500	+	—	+	..	—	Ectopic pregnancy	Right
17	R. L.	30	P 2 G 2	21	120/80	80	98.8	R: 3,680,000 W: 8,800	+	—	+	+	—	Ruptured corpus luteum	Right
18	J. K.	28	P 1 G 1	21	120/70	88	98.2	R: ..... W: 22,050	—	—	+	+	—	Acute appendicitis	Left
19	V. H.	29	P 1 G 2	28	100/58	76	98.6	R: 4,058,000 W: 6,500	—	—	+	..	—	Cystic ovary	Right

was cognizant of the clinical entity of corpus-luteum rupture. A diagnosis of acute appendicitis was made in 12 cases, of ectopic pregnancy in three cases, of cystic ovary in two cases, and of endometriosis in one case.

Operative Procedure and Findings.—With a preponderant diagnosis of acute appendicitis, a gridiron or McBurney incision was employed in 11 patients, a midline suprapubic incision in seven patients, and a right rectus incision in one patient.

Free blood was present within the peritoneal cavity in all the patients. It varied in amount from a few cubic centimeters to "an abdomen full." In most of the patients, the blood was confined to the pelvic cul-de-sac, in others it was generalized. Active bleeding from the ruptured corpus luteum was still present in several of the patients at the time the abdomen was opened.

woman (Case 16; Table) gestation was uninterrupted after oophorectomy.

The appendix, together with the ovary, was removed in 13 patients and was not removed in one. Five of the 19 patients had had an appendectomy previously. Of the 13 appendixes, acute inflammation was found in two of them, and a fecalith in three of the uninflamed appendixes.

PRESENTATION OF CASES

Three representative cases of ruptured corpus luteum are presented.

M. A. (Case 14; Table), an unmarried woman aged 26, was admitted to St. Joseph's Hospital on Jan. 6, 1950, with the chief complaint of constant pain in the lower portion of the abdomen of 12 hours' duration. The pain occurred suddenly early in the morning. It was felt at first around the umbilicus and then shifted to the lower part of the abdomen. She experienced no nausea or

vomiting. There was no change in the bowel habit and no urinary disturbance. Her last menstrual period was on Dec. 16, 1949. Periods had been regular and occurred every 28 days.

Physical examination showed the patient to be alert, cooperative, and in no acute distress. The temperature was 99 F.; the pulse rate, 110 a minute; the respiration rate, 22 per minute, and the blood pressure, 120/80 mm. Hg. The abdomen was soft, flat, and nonrigid. However, diffuse tenderness was present in the lower part of the abdomen. Rebound tenderness was also present. The bowel sounds were not unusual. No mass was palpable in the abdomen.

The hemogram showed 78% hemoglobin, 4,120,000 erythrocytes, 16,000 leucocytes, 6% stab neutrophils (band forms), 60% segmented neutrophils, 27% lymphocytes, 5% monocytes, and 2% eosinophils. The urine was normal.

A diagnosis of acute appendicitis was made, and the abdomen was entered on the right side through a gridiron incision. A considerable amount of free blood was found in the peritoneal cavity. The incision was extended downward to the symphysis pubis. A large hematoma of the corpus luteum, about the size of an orange, was found on the left side. Fresh blood was seen oozing through a rent in the wall. The right uterine adnexa were not unusual. A salpingo-oophorectomy was performed on the left side. The appendix was also removed.

The postoperative course was uneventful, and the patient was discharged on Jan. 14.

In this case, the clinical picture was strongly suggestive of acute appendicitis, especially in view of the initial site of the pain and the elevated leucocyte count. However, the absence of abdominal rigidity in the presence of tenderness and rebound tenderness was not consistent with such a diagnosis.

R. L. (Case 17; Table), a 30-year-old woman, secundigravid, secundiparous, entered St. Joseph's Hospital on May 17, 1950, with the chief complaint of having a constant pain in the lower portion of the abdomen. The pain had occurred suddenly that morning at about 6 o'clock and continued throughout the day, although the severity diminished slightly after the onset. She became slightly nauseated but did not vomit. There was no change in the bowel habit or any urinary disturbance. Her last menstrual period was on April 26. Periods had been regular and occurred every 26 days. She had no intermenstrual bleeding or discharge.

Physical examination revealed a well-developed, well-nourished woman, who did not appear acutely ill. The abdomen was soft, flat, and nonrigid, but diffuse tenderness was present in the lower portion. Tenderness was slightly more pronounced on the right side. Rebound tenderness was also present. The bowel sounds were normal. A bimanual pelvic examination revealed pronounced tenderness in the right uterine adnexa. While no definite mass was palpable, the right adnexa were felt to be slightly enlarged. The uterus was normal in size, shape, and position.

The blood pressure was 120/80 mm. Hg, the pulse rate 80 a minute, the respiration rate 20 a minute, and the temperature 98.8 F.

The hemogram showed 3,680,000 erythrocytes, 8,800 leucocytes, 1% stab neutrophils, 75% segmented neutrophils, 21% lymphocytes, 1% monocytes, and 2% eosinophils. The sedimentation rate was 20 mm. in one hour. The urine was normal.

A tentative diagnosis of acute appendicitis, and possibly disease of the uterine adnexa, was initially entertained; however, after reevaluation of the signs and symptoms presented by the patient, the diagnosis was changed to that of ruptured corpus luteum with intraperitoneal hemorrhage.

On exploration, a large amount of free blood was found in the peritoneal cavity. The right ovary was cystic, enlarged to the size of a tangerine, and filled with clotted blood. Free bleeding was present from a large rent in the cyst wall. The hematoma was evacuated; the lining was enucleated, and the collapsed wall was sutured with atraumatic® absorbable surgical suture U. S. P. The left adnexa were normal. Before closure of the abdomen, the appendix was extirpated as a routine measure, although it did not appear grossly abnormal.

The pathologic report was (1) ruptured corpus-luteum cyst and (2) subsiding appendicitis with periappendicitis.

The patient made an uneventful recovery and was discharged on the seventh postoperative day.

The clinical picture in this case was fairly typical of that of a ruptured corpus luteum. The sudden onset of lower-abdominal pain during the second half of the menstrual cycle in a woman whose periods had been regular was suggestive of a ruptured corpus luteum. The soft, flat, nonrigid, but tender abdomen, with definite rebound tenderness, was strongly suggestive of free blood in the peritoneal cavity. The coexisting inflammation in the appendix, although an incidental finding, emphasizes the importance of removing the appendix whenever possible.

G. K. (Case 18; Table), a woman aged 26, entered St. Joseph's Hospital on Feb. 7, 1950, with the chief complaint of recurrent pain in the lower portion of the abdomen, of two days' duration. The pain occurred suddenly on Feb. 5 and subsided after about two hours, but tenderness persisted. The following day the pain recurred, lasting for several hours, and its severity then abated. Slight nausea and vomiting accompanied the pain. There was no urinary disturbance or change in the bowel habit. Her last menstrual period was on Jan. 1. Periods had been regular and occurred every 28 days.

Physical examination revealed an asthenic woman who appeared ill but in no acute distress. The abdomen was soft, flat, and nonrigid. Tenderness was present in the lower part of the abdomen, especially in the right hypogastric region. There was pronounced rebound tenderness. Borborygmi were slightly hyperactive. The blood pressure was 100/65 mm. Hg; the pulse rate, 80 per minute; the respiration rate, 22 per minute, and the temperature, 98.0 F.

The hemogram showed 88% hemoglobin, 4,990,000 erythrocytes, 19,950 leucocytes, 7% stab neutrophils, 86% segmented neutrophils, and 7% lymphocytes. The urine was normal.

A diagnosis of acute appendicitis was made, and a gridiron incision was made on the right side. A large amount of free blood was encountered in the peritoneal cavity, and the incision was extended downward. As the free blood was aspirated, clotted blood was found in the pelvic cul-de-sac. The right ovary was enlarged to the size of a hen's egg and was filled with dark blood. There was bleeding from a rent in the ovary. Salpingo-oophorectomy was performed on the right side. The appendix was also removed.

The patient made an uneventful recovery and was discharged on the eighth postoperative day.

This case was atypical in that the pain was present intermittently for two days and there were nausea and vomiting. Apparently, the ovarian bleeding took place intermittently. The elevated red and white blood cell counts may be attributed to hemoconcentration produced by the nausea and vomiting. The physical findings of the abdomen—flat, soft, nonrigid, but tender abdomen with rebound tenderness and normal borborygmi—were suggestive of free blood in the peritoneal cavity, rather than of appendicitis.

COMMENT

While rupture of the Graafian follicle is a normal process in the ordinary cycle of ovarian activity, rupture of the corpus luteum is pathological and is accompanied with active bleeding. The formation of a hematoma or a cyst in the corpus luteum is known to be an important predisposing factor in the causation of the rupture, but

V 14
1951

the inciting factor producing the rupture is frequently difficult to evaluate. Rupture is known to have occurred during sleep,[3] during coitus,[6] during the performance of ordinary activity,[7] after an abdominal blow,[8] and during bimanual pelvic examination.[9] Whatever the inciting cause may be, an increased intraluminal pressure in the corpus luteum, whether produced from within or without, seems to be the fundamental cause of the rupture. In our series, rupture occurred during sleep in four patients, during coitus in one, and during the performance of ordinary activity in 14.

The formation of corpus-luteum hematomas occur with much more frequency than is generally believed.[10] The majority of them, undoubtedly, undergo resorption without clinical recognition. A few, however, go on to rupture. Even with rupture, if bleeding is mild and is of short duration, hemorrhage may go unrecognized. Furthermore, with moderately severe hemorrhage, bleeding may cease spontaneously and recovery take place without surgical intervention. Unfortunately, the incidence of these cases is entirely unknown, for without surgical exploration the diagnosis in such cases is a matter of conjecture. In several of the cases here reported, bleeding was found to have ceased by the time the abdomen was opened.

Rupture of the corpus luteum may occur at any time during the child-bearing period, from the onset of puberty to the menopause, but most commonly occurs in the young adult. Rupture has been reported to have occurred soon after the onset of puberty. King and Hawes [11] cited a case in which rupture occurred in a 12-year-old girl, whose catamenia had begun one year previously. Foisie [12] described a case of a 12-year-old girl in whom rupture and exsanguinating hemorrhage occurred one month after the onset of the catamenia. Pedlow [13] reported a similar case in a 12-year-old girl. These cases emphasize the necessity of considering a diagnosis of ruptured corpus luteum in the case of any female after the onset of puberty.

The corpus luteum ruptures characteristically during the second half of the menstrual cycle, and the Graafian follicle, during the midinterval period. This time relationship in the menstrual cycle is an important feature in differentiating rupture of a follicle and rupture of a corpus luteum. Surveys by various investigators indicate that intraperitoneal hemorrhage is caused much more frequently by rupture of a corpus luteum than by rupture of a follicle. This preponderance of reported cases of corpus-luteum rupture is partly explained by the fact that the resultant hemorrhage is much severer and more productive of symptoms than that which accompanies follicular rupture.

Clinical Manifestations and Physical Findings.—The most striking characteristic of corpus-luteum rupture is the suddenness of the onset. The symptoms produced by the rupture vary considerably with the amount of hemorrhage. Seldom is the bleeding severe enough to produce a picture of shock. In order for the ovarian rupture to be recognized clinically, sufficient hemorrhage must occur to cause irritation of the pelvic peritoneum. The tenderness present in the lower part of the abdomen is most pronounced on the side on which rupture has taken place. In the majority of the cases, the tenderness is most marked on the right side, owing to the comparative frequency with which rupture occurs in the right ovary.[14] In this series, 14 of the 19 patients had a rupture of the right ovary. Muscular spasm is rarely severe, and is frequently absent. Rebound tenderness can be elicited if there is sufficient free blood in the abdomen. Pain may be experienced in the shoulder if the blood extends up to the diaphragm and irritates the phrenic nerve. In contrast to the findings in acute peritonitis, peristaltic sounds are usually heard. A varying degree of nausea is present, but vomiting is usually absent. Only two of the 19 patients in this series experienced vomiting. A few of the patients experienced an urgency to defecate or urinate, and three of them had cramp-like pain on defecation.

A fulness may be palpable in the cul-de-sac on bimanual pelvic examination, but often the amount of free blood is insufficient to produce a mass. Adnexal tenderness is most pronounced on the side on which the rupture is present. The ovarian hematoma may sometimes be outlined as a soft, tender tumor.

The temperature is normal or only slightly elevated. There may be slight to moderate leucocytosis and anemia, depending upon the amount and duration of the hemorrhage.

While many of the aforementioned clinical findings might readily be associated with ectopic pregnancy, evidence of gestation in these cases of ruptured corpus luteum is strikingly absent.

Diagnosis.—An erroneous preoperative diagnosis, such as acute appendicitis, ruptured extrauterine pregnancy, or salpingitis, is made in the majority of cases of ovarian hemorrhage. A correct diagnosis can be established in an increased percentage of these cases if such an entity as corpus-luteum rupture is kept in mind in making a differential diagnosis of acute abdominal pain in any woman of child-bearing age. This is well borne out by a survey made by Hoyt and Meigs [14c] at the Massachusetts General Hospital, where 17 of 58 ovarian ruptures (follicular and corpus-luteum ruptures) were correctly diagnosed preoperatively by the house staff and surgical residents, who were on the lookout for such hemorrhage from the ovary. The sudden onset of symptoms of intraperitoneal hemorrhage, during the second half of the menstrual cycle in any woman of child-bearing age should lead one to suspect a rupture of the corpus luteum. To differentiate the condition from a ruptured

6. (*a*) Israel.[3] (*b*) Weil.[5] (*c*) Payne, W. R.: Rupture of Corpus Luteum as a Cause of Acute Abdominal Symptom: Case Reports, Am. J. Obst. & Gynec. **25**: 150-151 (Jan.) 1933. (*d*) Stuckert, H.: Ovarian Hemorrhage, J. A. M. A. **94**: 1227-1229 (April 19) 1930.

7. Israel.[3] Weil.[5] Payne.[6c]

8. Christopher, F.: Hemoperitoneum from Traumatic Rupture of Corpus Luteum, J. A. M. A. **93**: 456 (Aug. 10) 1929.

9. Greenhill, J. P.: Ruptured Corpus Luteum Cyst and Unruptured Hematosalpinx in a Nulliparous Woman, Am. J. Obst. & Gynec. **19**: 423-424, 1930. Pratt, J. P.: Mild Symptoms from Rupture of Follicle Cyst of Corpus Luteum, ibid. **27**: 816-824 (June) 1934.

10. Henthorne, J. C.: Pathologic Defects of the Corpus Luteum of the Ovary, Mississippi Doctor **18**: 139-143 (Aug.) 1940.

11. King, G. C., and Hawes, C. H.: Ruptured Ovarian Cyst in Childhood: Report of a Case, New England J. Med. **215**: 576-577 (Sept. 24) 1936.

12. Foisie, P. S.: Hemorrhage from a Ruptured Corpus Luteum: Report of Case, New England J. Med. **227**: 45-46 (July 9) 1942.

13. Pedlow, E. B.: Massive Intraperitoneal Hemorrhage Caused by Rupture of Hemorrhagic Corpus Luteum, Ohio State M. J. **43**: 168-169 (Feb.) 1947.

14. (*a*) Morton.[3] (*b*) Weil.[5] (*c*) Hoyt, W. F., and Meigs, J. V.: Rupture of the Graffian Follicle and Corpus Luteum, Surg., Gynec. & Obst. **62**: 114-117 (Jan.) 1936.

extrauterine pregnancy may be difficult at times, especially if the patient's menstrual periods have been irregular.

Operative Procedure.—In many of the mild cases surgical operation is not required, for bleeding frequently stops spontaneously after a period of oozing. The severity and progression of the symptoms should be the guide in the decision for operative intervention. However, needless to say, the danger of watchful waiting lies in those cases with a mistaken diagnosis in which an accutely inflamed appendix or other acute surgical condition of the abdomen exists.

The treatment of the ovary depends upon the amount of pathological change present. As much as possible, the affected ovary should be conserved. The simplest procedure is to evacuate the hematoma and approximate the collapsed wall with atraumatic* absorbable surgical suture. Resection of the ovary, or even oophorectomy, may be necessary if the greater part of the ovary is involved by the hematoma or if bleeding cannot be controlled.

Since dual lesions may coexist,[15] the appendix should be examined routinely and extirpated whenever possible, even though a definite pathological condition exists in the ovary. An acutely inflamed appendix, coexisting with a ruptured corpus luteum, has been reported by O'Gorman [16] and by Hoyt and Meigs.[14c] Such a dual lesion was also found in this series of cases.

SUMMARY AND CONCLUSIONS

Nineteen cases of ruptured corpus luteum occurring at St. Joseph's Hospital in Milwaukee in the period from January, 1944, to June, 1950, are reviewed. A correct preoperative diagnosis was made in one case. In 12 cases the condition was diagnosed as acute appendicitis; in three, as ectopic pregnancy; in two, as cystic ovary, and in one, as endometriosis.

The clinical manifestations, diagnosis, and surgical aspect of ruptured corpus luteum are discussed.

Ruptured corpus luteum is not an uncommon condition.

A diagnosis of ruptured corpus luteum should be entertained in any woman of child-bearing age with lower-abdominal pain occurring during the second half of the menstrual cycle.

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15. Taniguchi, T., and Kilkenny, G. S.: Prophylactic Appendectomy in Gynecological Surgery, Am. J. Obst. & Gynec. **60**: 1359-1362 (Dec.) 1950.

16. O'Gorman, F.: Acute Appendicitis Associated with Intraperitoneal Hemorrhage from Rupture of Corpus Luteum, Brit. M. J. **1**: 148 (Jan. 31) 1942.

V 147
1951

GENERAL PRACTITIONER'S ROLE IN MANAGEMENT OF PERSONALITY PROBLEMS OF ADOLESCENTS

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The general practitioner, who sees more adolescent patients than any other medical specialist, should accept the challenge which the problems of adolescence present. Because of the continuity of contact with the child, and his parents and siblings, the general practitioner is in a favorable position to contribute both to the solution and prevention of emotional problems arising in this 13 to 18-year-old age group. This paper does not seek to offer a comprehensive psychological evaluation of adolescence but rather limits discussion to those problems which the general practitioner could manage within his limitations of time and training.

PERSONALITY PROBLEMS OF ADOLESCENTS

The beginning of adolescence [1] brings about very definite physical manifestations, but changes in personality occurring at this time are not so abrupt as is frequently thought. Personality and emotional disturbances evident during adolescence are usually a continuation or reactivation of infantile and early childhood conflicts. At times, however, the stress of physiological and social demands may be more than some adolescents can handle, so that a borderline adjusted child may have a turbulent adolescence.

I shall not discuss specifically such antisocial behavior as alcoholism, narcotic addiction, thievery, "mugging," sex crimes, use of "hot rod" cars, and the many other major aberrations of behavior seen so often in adolescents. They are merely violent modes of expression of emotional needs or conflicts, or attempts at solution of these conflicts, and are basically combined social and psychiatric problems. These problems are often beyond the scope of the general practitioner, who should limit his attention to the earlier evidences of conflict in the basic areas to be discussed.

Adolescent Turmoil.—What constitutes normal behavior during adolescence? Unfortunately, there is no specific answer. Young people arrive at adolescence with varying degrees of self-esteem and self-approval, moral concepts, and abilities to relate themselves to others and to adjust to new situations. They run up against three basic challenges as result of physiological development and social pressures: (1) need for "emancipation" from adult authority, (2) the sex drive, and (3) aggressive drives to achieve and dominate. This occurs along with the adolescent's need to be accepted and approved by his agemates.

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1. Adolescence may be divided into three phases: prepubescence, pubescence, and postpubescence. Pubescence may be described as that phase of development which starts with the first appearance of terminal hair in the pubic region and terminates when the pubes is fully covered with hair. Prepubescence is that stage in which the penis and testes begin their spurt of growth in the boy and the breasts in the girl up to the point when pubic hair is first apparent. Postpubescence is the phase after hair is well developed until full maturity. The penis and testes grow progressively during all these phases. In the girl the breasts and uterus continue to grow throughout these phases, with menstruation usually beginning during the phase of pubescence. Puberty is defined as the point when the individual boy or girl is capable of procreating and need not correspond to the day of the boy's first emission or the girl's menarche. The period of childhood prior to adolescence may be called preadolescence and that following it postadolescence or maturity.

These challenges are usually in conflict with the child's earlier concepts of proper behavior and the culturally accepted patterns of behavior set up by parents and society, so that the adolescent must constantly choose between modes of action which depend on conflicting wishes, values, attitudes, feelings, and beliefs. The extreme contradictions of attitude and behavior which characterize even the normal adolescent are expressions of these conflicts and their search for acceptable patterns of conduct. The resolution of these conflicts is the very essence of personality development in the adolescent and is an area in which the physician can be of great help.

Problems Associated with Physical Development.—Although deviations in physical development rarely affect behavior directly, they do influence behavior by developing anxieties that color or distort the child's experiences.[2] This is particularly a problem in adolescence when the desire to grow is changed to a desire to grow sexually appropriate at a time when there is such a marked variation in the physical status of children of the same age, due to the wide age range of onset of normal adolescence.[3] It is this wide age range of onset of normal sexual maturation and the associated growth spurt which create the apparent deficiencies in development noted in this age group, which are frequently erroneously attributed to endocrine dyscrasia.[4] The issue of being approved or disapproved by others assumes a critical importance, so that anything which tends to make the adolescent feel inadequate or inferior (such as a deficiency in height or secondary sex characteristics) leads to feelings of anxiety and is likely to be met promptly with some kind of defensive reaction. However, even more often, the manifest concern over physical development is merely a rationalization and projection of a more basic emotional deprivation.[5]

Often boys or girls who mature physically earlier than their contemporaries also present personality problems. This is due largely to the fact that the restrictions imposed both by society and parents are based on the child's chronological age, while the demands of the early-maturing adolescent are based on his physiological status, years of maturity, and appearance. When associated with intellectual retardation, early physical maturity frequently leads to serious social maladjustment.

Disturbed Parent-Adolescent Relationship.—It is too simple either to blame parents for every personality disturbance manifested by adolescents or to absolve them from all responsibility and blame the adolescent. It is more important to analyze the family interrelationships and contradictions which create the problem.

This is a time for rebellion. The adolescent strives to escape parental domination only to be able to conform to the even more domineering mores of his agemates; yet, at the same time, it is important for him to have a feeling of acceptance and being understood by his family. Constant reminders that a boy or girl is "different" or admonitions that he should be more popular, effective, or conforming aggravate and add to the problem. The adolescent must also work out his hostilities and overattachments to his parents.

Frequently the child's disturbed behavior and feelings are his adaptation to the parents' own emotional problems. Parents may seek in their child compensation for an unhappy marriage, solution to emotional conflicts, or a counterbalance to disappointments in a vocational career, while others even resent their children. However, it must be remembered that many more parental shortcomings emanate from anxiety and confusion than from ignorance or malice, so that the physician can accomplish a great deal by helping parents look to their own problems and create wholesome relationships with their children.

Both boys and girls are greatly influenced by the "emotional climate" in the home created by the parents' attitudes toward each other, toward them, and toward society. A mother who makes a boy feel he is repulsive to girls or who passively clings to him, denying him the emotional freedom to direct his attention to girls, may handicap or block his psychosexual development. Likewise, the mother and father who do not help their daughter clarify and accept a realistic role in life may hinder her maturity. Confusion and conflict over the feminine role today create a pressing problem of anxiety and uncertainty in adolescent girls.

The rivalry and jealousy among siblings and the child's position in the family constellation are important factors in the family situation which require a great deal of understanding.[6] Hostility and feelings of guilt are frequent emotional reactions of adolescents to problems in this sphere.

Problems of Social and Sexual Adjustment.—To become effective members of society, boys and girls must accept responsibility for self-direction and establish wholesome relationships with their own contemporaries. Parents must help them to achieve this independence.

As adolescence begins, the youngster begins seriously to evaluate himself in comparison with friends and classmates, not only in respect to physical appearance, as pre-

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5. Jones, H. E.: Adolescence in Our Society: The Family in a Democratic Society, New York, Columbia University Press, 1949, p. 70. Schonfeld, W. A.: Inadequate Masculine Physique as Factor in Personality Development of Adolescent Boys, Psychosom. Med. **12**: 49 (Jan.-Feb.) 1950.

6. Ziman, E.: Jealousy in Children: A Guide for Parents, New York, A. A. Wyn, Inc., 1949. Bossard, J. H. S.: The Sociology of Child Development, New York, Harper & Brothers, 1948.

viously discussed, but also in respect to his intellectual capacities, interests, attitudes, needs, and personality. If he finds himself wanting, he may project his difficulties, blame others, and show uncontrolled and undirected hostile behavior when thwarted; or he may withdraw from social contacts, tending to give up in his struggle with life, often with the development of somatic complaints. It is a real dilemma, and the physician must use caution before even encouraging a youngster toward greater social activity until underlying problems are clearly seen. Withdrawn, shy youngsters are not helped when told to "go ahead and have a good time." It is essential to understand and deal with the basic personality problems which inhibit expression of instinctive gregarious needs. A diagnosis of schizophrenia is made too often of these disturbed adolescents, but when present it should be recognized early.[7] It is equally important to understand and manage the hostile and aggressive youth. Disturbances in sexual behavior and attitudes in adolescents are invariably an expression of a more generalized personality problem. However, inconsistencies in our social standards also create confusion as to the person's sex role, very often resulting in intense feelings of guilt and attempts to resolve the conflict through a variety of personality reactions including compulsive behavior, submissiveness, hostility, or withdrawal. Most adolescents learn to control, sublimate, or express their sex drives in socially acceptable patterns of behavior, but some do get into difficulties.[8]

Sex education is more than a knowledge of anatomic and physiological processes. It is an understanding of how to love and live with members of the same and opposite sex. To be effective, sex education must start with early childhood as questions arise and be part of the training in accepted cultural patterns of behavior and interpersonal relationships, and not left merely to a series of lectures or movies during adolescence.[9]

Problems of Adjustment in School.—The physician should do more than merely eliminate the physical defects which may handicap the child. In cooperation with the school authorities, he should try to evaluate intellectual and emotional factors which may be causing failure. Failure in school is not always due to inferior intellectual endowment. In some cases it is due to specific reading disabilities [10]; in others it is due to a discrepancy between the intellectual capacity and aptitudes of the adolescent and the demand of the high school curriculum or the ambitions of the parents. It must not be forgotten that in many cases failure in school is merely the expression of unsatisfied emotional needs, which may not be related directly to the school situation. Inability to create wholesome relationships with agemates is one such factor. Handling these children by exerting more pressure adds more tension under which they must labor. However, a combination of school attendance laws, failure of many schools to adjust to the needs of the academically poor student, as well as parental and social pressures for attendance in school has placed a countless number of children under progressively increasing strain during the elementary school years, so that at adolescence their anxiety and tension is at the breaking point. They dread the thought of another day at school. They manifest their anxiety in different ways, varying from psychosomatic symptoms to acts of delinquency. Only too frequently the adolescent thinks of school as the cause of his unhappiness and wrongly feels that if he were to leave school all his anxieties would end. He fails to realize that his problems may be much more profound and basic.

GENERAL THERAPEUTIC CONSIDERATIONS

Unfortunately, many general practitioners and pediatricians have avoided psychological treatment at all ages, paying too little attention to the psychotherapeutic possibilities inherent in the general practice of medicine and pediatrics.[11] The physician should interview [12] the parents and adolescent individually, giving them an opportunity to express themselves freely after reassuring them all that his goal is to help and not merely to criticize. He should also communicate with the adolescent's school. Once the practitioner has gathered all the information, he must evaluate the sphere or spheres in which the adolescent's problems lie and formulate a working hypothesis of the psychodynamics and social pressures involved. He could call on several other trained workers to help him with this formulation when necessary besides the school guidance personnel—namely, the pediatric psychiatrist, child psychologist, psychometrician, or psychiatric social worker of a family agency.

The general practitioner and pediatrician could best utilize their time in the management of those adolescents for whom reassurance and manipulation of the environmental situation is adequate—whether this would involve modification of parental or sibling attitudes, the school

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V 14
1951

situation, or social pressures. Treatment may be directed to four areas—namely, the adolescent, the parents, the school, and group activities.

The Adolescent.—It is important for the physician who sees an adolescent patient, whether for an illness or for a school examination, to include in his examination and history a survey of the adequacy of the adolescent's sleep, nutrition, and general activity as well as his adjustment to school, home, and his peers and to initiate such changes as may be indicated. Particular attention should be paid to the emotional status of all adolescents who express more concern than is justified about their physical health, normality, and physical attractiveness.[13] The physician who understands and even anticipates the difficulties likely to arise because of irregularities in growth and sexual maturation can help parents and youngsters through this trying period. He must, however, always remember that concern over physical development may be either a cause of anxiety or merely a projection of a more basic emotional problem. It is just as wrong, then, to use hormones indiscriminately as it is to send a mother home with the comment "stop worrying, he will outgrow it" or that the young person "is just going through a phase." Hormone therapy and remedial surgery have a very limited place in the treatment of adolescents, although specific indications do exist, usually as adjuvants to psychotherapy.[14]

Many adolescent behavior problems can be interpreted in terms of conflict between the youth's desires and direct or indirect environmental demands made on him. The physician should attempt to find a solution to the conflict which will satisfy the young patient's needs and which will still meet acceptable social standards. He should make certain that environmental pressures are reasonable and within the child's capacity to meet them, and he should work toward satisfaction of fundamental emotional needs. The physician cannot promise to eliminate all friction, but he can offer to help the adolescent meet his difficulties, resolve his conflicts, and understand the need to control his primitive impulses and thus do a great deal to obviate many of the personality problems of adolescence and psychosomatic disorders of early adult life. This cannot be accomplished through lecturing but by helping the adolescent and his parents to marshal the facts and evaluate them realistically. Unfortunately, in many adolescents, like their parents, emotional blocks and biases develop which prevent a realistic evaluation of the situation. In these cases only a deeper analytical approach will be of any help to modify the adolescent's emotional needs and blundering attempts to solve his conflicts.

Wherever possible, treatment should be carried on while the child is at home. Too often the military or boarding school is the adult answer to adolescent problems. "They'll teach him discipline," is the cry. Frequently, however, all they achieve is further repression of hostilities, which subsequently become expressed in other spheres. Discipline to be effective must be self-imposed. It can only be inculcated if the child has a feeling of being loved and a sense of belonging.[15] Decision as to whether the child remains or is removed from home is dependent on the ability of parents to accept their responsibility in the psychotherapeutic manipulation of the home situation while therapy is in progress.

Parents.—In dealing with parents the busy practitioner must learn to differentiate between two general groups. First, there are those who are well adjusted but do not comprehend their own mistakes. These parents can learn, accept suggestions, and follow directions with good judgment. Often they are misguided and overanxious about their children. With them a lot can be accomplished in a little time if the general practitioner understands the problem and advises them properly, not only in regard to specific behavior but, more important, in regard to helping them change their feelings and attitudes.

The second group of parents is infinitely more difficult to deal with. They are victims of their own maladjustments, frequently influenced by strong guilt and conflict over hostile feelings toward the child, which must be resolved before anyone can help the parent-child relationship. Parents as well as the adolescents need the sympathetic understanding of the physician. It is futile for the physician merely to assume an authoritative, critical, or disciplinary role with either. At times one finds that the root of the problem is so profound in either the mother or father that the only hope lies in adequate psychotherapy for the parent. Usually, however, it is possible to accomplish a great deal by working with the adolescent and guiding the parents. The goals in treatment are directed not only toward helping the parents handle the adolescent, but also toward teaching the adolescent how to handle his parents with the minimum of conflicts and the maximum of satisfaction to both.

School.—The physician who treats adolescents must work in close cooperation with the school authorities, both from diagnostic and therapeutic viewpoints. Most high schools have designated personnel to be in charge of student counseling who welcome the opportunity of working in close cooperation with the family physician.

The physician's understanding of the adolescent's and his parents' emotional needs and limitations may be of great help to the school counselor in formulating an appropriate academic or vocational training program for the individual child. In turn, the counselor by knowing of the child's limitations and potentialities can do a great deal to help the physician to relieve the tensions and anxieties by adjustment of the child's academic program.

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Group Activities.—It is important for the general practitioner to help the adolescent and his family to find acceptable outlets for his energies through group activities. However, the question frequently arises as to how "to make" the adolescent join the community-sponsored or accepted projects, such as social clubs, scout movements, athletic teams, 4H clubs, or church groups, as opposed to the corner drug store, poolroom, dance halls, and cellar clubs. In joining a group, the adolescent identifies himself with this group, whether for constructive purposes or as an expression of revolt, and this is as much a symptom as an etiological factor in the behavior disorder. Before the adolescent can establish a wholesome group relationship, he must be able to relate himself to others as a person accepting his assets and liabilities. It is in this sphere that a physician could contribute most. In helping the disturbed adolescent to find a socially acceptable group to join, the physician and family should not try to force the adolescent into a pattern of behavior wholly unacceptable to him. They should try to take full advantage of the adolescent's aptitudes and interests and find a group in which he could find a place for himself, even if it is a compromise with the adult's concept of ideal activity, as long as it is in the right direction. The adolescent must also be taught to compromise.

Need for Referral to Psychiatrist.—In some cases psychotherapy must go beyond the point of environmental manipulation, encouragement, and guidance. It can only be achieved through a close interpersonal relationship of patient and psychotherapist in which the adolescent can live through his conflicts. This requires the specialized skills and techniques of the pediatric psychiatrist.

Adolescence is a promising period for psychotherapy. The teenager's personality, being dynamic and open to suggestion, is highly amenable to all external influences, including those of psychotherapy. The personality is still flexible in adolescence. If at this stage the adolescent's insight and awareness is widened, a solidifying of the personality into permanent patterns of maladjustment may be prevented. The approach varies with the individual case and the individual psychiatrist. But in all cases it is largely dependent for its results on a quick, strong, and successful transference. The therapist, by virtue of his skill and experience, quickly ascertains the nature and extent of the adolescent's affective distortions and emotional disturbance. He attempts to correct these by reweaving the patient's emotional life, retraining his reactions, reintegrating him to life, and helping him to find enduring interests, healthy sublimations, and strong compensations. The adolescent is also taught to recognize and accept the fact that frustration and a certain amount of accepted and tolerated emotional repression is a necessary part of civilized society. The adolescent must find a working knowledge of the nature of his emotions which helps him to comprehend the reaction patterns of his life. He must understand the more usual dynamic factors and psychological mechanisms influencing his reactions, and he must be taught how to deal with these factors in accordance with wholesome goals and purposes in life.

SUMMARY

The ever-increasing problems of adolescence call for the cooperation and collaboration of all those involved in the management of this age group, including the family physician. The general practitioner must go beyond the adolescent's physical health and accept responsibility for helping to resolve the adolescent's emotional needs and conflicts. The problems discussed are those associated with normal adolescent conflicts, as well as the problems associated with inadequate physical maturation and preoccupation with physical health and sexual maladjustment, disturbances of intrafamily relationships, and difficulties in school. Young people arrive at adolescence varying in self-esteem, self-approval, feelings of competence, and in the ability to relate themselves to others and to adjust to new situations. At this time they are confronted with three basic challenges, which are emancipation from parental authority, the sex drive, and the aggressive drives to achieve and dominate. The essence of personality development in the adolescent is the resolution of the conflicts created by these new drives and emotional needs of maturity superimposed on the basic personality pattern of the youngster in the presence of the frequently conflicting mores of parents and other adults with those of his agemates. Frequently, the emotional needs of the adolescent are not satisfied, or the pattern of behavior adopted as the solution for his conflicts is not socially acceptable and leads to the disturbances of behavior noted in teenagers. The physician must remember that the expressed concern is often merely a rationalization and projection of a more basic emotional deprivation.

In the section on general therapeutic considerations, an approach to the problems of the adolescent is outlined, emphasizing the areas to which the physician should direct his attention—the adolescent, the parents, the school, and the adolescent's social group. Most adolescent behavior problems can be interpreted in terms of conflict between the adolescent's desires and the environmental demands made on him. The general practitioner and the pediatrician could best utilize their time in the management of those adolescents in whom reassurance and manipulation of the environmental situation is adequate, which would include modification of parental or sibling attitudes, academic situations, and social pressures. In some cases psychotherapy must go beyond this point, so that the general practitioner must evaluate those which he can treat himself in close cooperation with the family and school guidance personnel and those whom he must refer for specialized psychiatric guidance.

62 Waller Ave.

Diarrhea from Antibiotics.—Prolonged diarrhea may follow administration of chloramphenicol, aureomycin, terramycin or penicillin-sulfonamide combinations. The diarrhea closely resembles and is apparently identical with the diarrhea of the sprue syndrome. It is probably due to a deficiency state secondary to the destruction of the normal intestinal flora. The diarrhea responds readily to parenterally administered liver, in conjunction with ingestion of B vitamins.—Reuben R. Merliss and Arthur Hoffman, Steatorrhea Following the Use of Antibiotics, *New England Journal of Medicine*, Aug. 30, 1951.

V 14
1951

OCCULT CARCINOMA OF THE BREAST

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and
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Considerable emphasis has been placed on early diagnosis as a major weapon in the fight against breast cancer, and, certainly, if breast cancer is detected early, a favorable outcome may be expected. Follow-up studies show that radical mastectomy for cancer performed prior to axillary lymph node involvement results in three times as many five-year survivals as when operation is delayed until the nodes have been invaded.

Unfortunately, it is not always possible to detect breast cancer early. The usual method of detection is still the physicial examination. Although interesting experimental work is being done in diagnosis by radioactive phosphorus and roentgen rays, laboratory methods of detecting breast cancer preoperatively are not yet practical, and therefore it is necessary to depend almost entirely on clinical examination.

In the management of breast lesions, we have used the concept of a "dominant lump" as introduced by Haagensen and Stout.[1] The term "dominant lump" is employed by those authors to designate a circumscribed area of breast tissue different in consistency from the surrounding breast tissue. The early detection and immediate investigation of these circumscribed areas of breast tissue is the chief hope of curing breast cancer under present limitations, and the only accurate method of diagnosing a "dominant lump" is by excision for gross and microscopic examination. In a series of 166 "dominant lumps" removed surgically, one of us (W. T. F.) compared the preoperative diagnosis with the final pathologic diagnosis based on microscopic examination and found that only 75% of our preoperative diagnoses were correct.[2] It has been repeatedly demonstrated that if one waits for the classical signs of carcinoma (nipple retraction, skin attachment, and fascial attachment) to appear before a "dominant lump" is removed and examined, the chance of cure may be lost.

If the clinical demonstration of a mass in the breast is the most trustworthy indication of cancer, it is distressing to learn that some breast cancers first manifest themselves by other, and often more advanced, signs. Jackson [3] recently reported three patients with carcinoma of the breast, each of whom had a palpable axillary metastasis before the primary breast lesion could be felt. Cogswell,[4] prompted by Jackson's contribution, reported a similar case, and several physicians who discussed Cogswell's paper mentioned having seen at least one similar patient.

The concept of an occult carcinoma is not new, having been discussed by Willis [5] in "The Spread of Tumors in the Human Body," in a section on "Latent Carcinoma of the Breast." He refers to several reported cases [6] in which the first sign of disease was axillary or more distant metastasis.

At the Hospital of the University of Pennsylvania we have recently seen several cases similar to Jackson's and Cogswell's, and have been stimulated by their reports to make a study of our experiences. We have reviewed all breast cancers examined in the Laboratory of Surgical Pathology in the last eight years from cases in which a mass was not palpated before operation.

So much reliance is placed on the discovery of a mass as the diagnostic criterion of breast cancer, that we believe it is well to give wider recognition to the occult carcinomas of the breast and their first symptoms and signs.

ANALYSIS OF CASES

During the last five years, 15 patients were operated on at the Hospital of the University of Pennsylvania for carcinoma of the breast that had manifested itself before a mass could be palpated. In a 16th case, breast carcinoma that had metastasized to the abdomen was discovered only at autopsy. The signs that led to the diagnosis of cancer are listed in the table. The recognition of a small dominant lump is a difficult and often

Occult Carcinoma of the Breast; Presenting Sign in 15 Cases

Discharge from the nipple	4
Dermatitis of nipple	4
Axillary metastasis	4
Edema of skin	1
Retraction of skin	1
Distant metastasis	2
(a) Orbital	1
(b) Abdominal	1

an arbitrary diagnosis. What some examiners call a "lump," others may consider a normal variation. An experienced examiner may find a small "lump" in a breast that most physicians would pass as normal. It is entirely possible that some of the breast cancers in these patients might have been felt before operation. Suffice

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5. Willis, R. A.: The Spread of Tumors in the Human Body, London, J. & A. Churchill, Ltd., 1934, p. 426.

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it to say that physicians experienced in the examination of the breast were unable to detect a mass in these instances, even on repeated and careful examinations.

REPORT OF CASES

CASE 1.—A. B., a 51-yr.-old white housewife, had noticed a serous discharge from the right nipple for seven months before her admission to the Hospital of the University of Pennsylvania on April 25, 1947. She stated that occasionally the discharge had been "rust-colored" but never bloody. On examination serum was expressed from the right nipple but no breast masses were felt. A right simple mastectomy was performed on April 26 by Dr. F. L. Payne. By tracing a dilated duct in the center of the nipple, the pathologist exposed a hard, uncircumscribed lesion, 4.0 cm. beneath the nipple, which grossly resembled carcinoma and which proved on microscopic examination to be an intraductal carcinoma with minimal stromal invasion. Removal of the pectoral muscles and axillary contents was performed on April 30. Several axillary nodes contained metastases. In January, 1949, the patient noted a mass in the opposite breast. An excision biopsy on May 31 revealed carcinoma on quick-frozen section, and a left radical mastectomy was carried out. Microscopic study showed that the lesion from the left breast was a highly anaplastic carcinoma with invasion

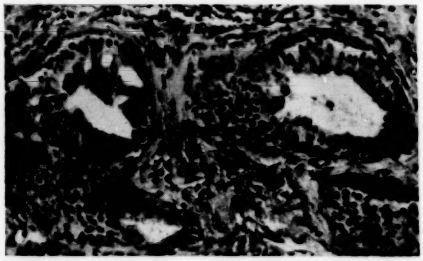


Fig. 1 (Case 4).—Atypical hyperplasia in mammary ducts. Hematoxylin and eosin; × 207.

of adipose tissue and involvement of eight out of nine axillary nodes. The patient died March 30, 1950, with generalized metastases.

CASE 2.—L. W., a 62-yr.-old housewife, was admitted to the hospital on Nov. 3, 1949, because of a muddy-red discharge from the left nipple first noted four weeks previously. Bloody fluid could be expressed from the nipple by pressure over the lower outer quadrant of the breast. No masses could be felt. Operation was performed the day after admission by Dr. H. P. Royster. A wedge-shaped segment of breast was excised, centering on a blood-filled duct located at the left lower quadrant. Gross and frozen-section examinations were suggestive of carcinoma but were not conclusive. The paraffin sections disclosed a carcinoma that appeared to be entirely intraductal. Radical mastectomy was performed on Nov. 7. Lateral to the biopsy wound was a nodule 2.0 cm. in diameter. Numerous ducts in the area of this nodule contained carcinoma cells. Thirty axillary lymph nodes were examined and were free of cancer.

CASE 3.—R. S., a 50-yr.-old white housewife, entered the hospital on June 9, 1950, because of a discharge from the left nipple of three years' duration. The discharge had been milky until several weeks prior to admission, when blood became evident in the fluid. No mass could be felt in the breast, but a discharge could be expressed from the nipple by pressure over several segments of the breast. A simple mastectomy was performed by Dr. F. L. Payne on June 10. No tumor mass could be identified grossly but microscopic examination revealed an intraductal carcinoma involving the ducts just beneath the nipple. Resection of the pectoral muscles and axillary contents was performed on June 16. None of 16 axillary nodes contained cancer.

CASE 4.—D. A., a 57-yr.-old Negro housewife, was admitted to the hospital on Oct. 24, 1945, because of a bloody discharge from the right nipple of six weeks' duration. Pressure immediately caudad to the areola produced blood at the nipple, but no masses could be felt in the breast. On Oct. 25 a wedge of mammary tissue was excised centering on the involved mammary duct. Pathological examination disclosed a number of small cysts and dilated ducts, in some of which the epithelial cells were unusually large and hyperplastic, occasionally forming small papillomata. Although on subsequent examination some of the papillomas were considered atypical, there was no evidence of cancer (Fig. 1). The changes were not striking, and it seemed questionable whether they accounted for the bleeding.

Six months after operation the patient noted a mass in the scar but did not report to the follow-up clinic until one year after operation. At that time, examination disclosed a mass, just lateral to the scar, which was firm and lobulated and which had retracted the skin. Excision biopsy performed Nov. 25, 1946, by one of us (W. T. F.) disclosed a firm mass 1.0 cm. in diameter, arising from a cyst wall. Microscopically the mass was composed of intraductal papillary growths of cells whose cytology was definitely that of cancer and which extended as far as the nipple. A radical mastectomy was performed. Most of the carcinoma was intraductal. One of 29 axillary lymph nodes contained metastatic carcinoma.

It is impossible to say definitely whether the lesion that produced the nipple discharge, and that we believe was missed at the first operation, was a cancer or was still a benign, although precancerous, hyperplasia. The appearance of a mass within six months after the first operation makes it seem likely that the cancer was already present at the time of the first operation.

Comment.—It is our opinion, based on a recent detailed study of nipple discharge,[7] that discharge which is not normally associated with lactation should be investigated surgically, even though no breast mass can be palpated. We believe that, usually, the involved duct or ducts can be identified preoperatively and that, by excising a pie-shaped segment of breast with this duct as its axis and the periphery of the breast as its base, the lesion can be removed. If gross and microscopic examinations prove the lesion to be benign, the wedge resection is usually sufficient.

Whether the discharge is bloody or nonbloody should not alter the type of treatment. The discharge in the first case reported above was serous, despite having been produced by a malignant lesion. Papillomatosis, considered by many authorities as a premalignant lesion, is often accompanied by a serous discharge although bloody discharge is the more common symptom.

In Cases 5, 6, 7, and 8 the presenting sign was dermatitis of the nipple.

CASE 5.—W. U., a 47-yr.-old white housewife, was seen in the department of radiology in December, 1946, because of "eczema of the right nipple." In addition to the skin changes the patient had noted a serosanguineous discharge from the nipple for the preceding eight weeks. No masses could be felt in either breast. Dr. E. P. Pendergrass made a clinical diagnosis of Paget's disease of the nipple and this was established by biopsy. On Dec. 24 a radical mastectomy was performed by Dr. H. A. Zintel. No tumor mass was noted on gross pathologic examination of the breast. Directly beneath the nipple the ducts were greatly dilated, and a thick, greenish exudate could be expressed from them. Microscopic examination showed moderately extensive intraductal carcinoma without invasion of the

7. Fitts, W. T., Jr.; Maxwell, J., and Horn, R. C., Jr.: The Significance of Nipple Discharge, unpublished data.

V 14
1951

stroma. None of the 13 lymph nodes that were removed from the axilla contained carcinoma.

CASE 6.—L. S., a 53-yr.-old housewife, was seen in the surgical outpatient department in February, 1949, because of an "eczematoid" reaction about the right nipple. Eight weeks previously she had noted a bloody discharge, which was soon followed by redness and scaling of the nipple. Examination of the breast revealed no abnormalities except the scaling eczematoid process eroding the nipple. No secretion could be expressed from the nipple. A biopsy of the nipple revealed the malignant changes of Paget's disease. A radical mastectomy was performed on March 2. On microscopic examination an extensive intraductal carcinoma was demonstrated, with associated Paget's disease of the nipple, but no invasion was noted except in the nipple skin. Carcinoma was not detected in any of the 16 axillary lymph nodes removed at operation.

CASE 7.—M. T., a 51-yr.-old white housewife, was admitted to the hospital on April 29, 1949, because of a small scaling lesion on the right nipple, which she had first noticed almost a year before. The lesion was on the upper margin of the nipple and was about 1.0 cm. in diameter. No masses were palpated and no discharge could be expressed from the nipple. On April 30 the nipple was excised by Dr. F. L. Payne. Microscopic examination disclosed Paget's cells in the epithelium of the nipple and in the epithelium of an adjacent duct. The diagnosis of Paget's disease of the nipple was made and a radical mastectomy performed on May 3. No breast tumor was noted on gross examination. Malignant changes were observed in two of the ducts adjacent to the nipple. None of the removed axillary lymph nodes contained carcinoma. A recent follow-up examination revealed no evidence of recurrence or metastasis.

CASE 8.—G. C., a 44-yr.-old white housewife, was admitted to the hospital on Oct. 30, 1949, because of itching and redness of the left nipple. Eight months before admission she had noticed peeling and itching of the skin of the left nipple. This was followed by a serous discharge and crusting of the nipple. In the four months preceding her admission to the hospital, her nipple became inverted and reddened. On examination, no masses could be felt in either breast. A biopsy of the nipple, performed after admission to the surgical outpatient department, was interpreted as showing Paget's disease. After the patient was admitted to the hospital, some observers noted an irregular mass immediately below and medial to the nipple which was not fixed to the skin. Radical mastectomy was performed on Oct. 31 by Dr. Michael Newton. The mass proved to be hard and irregular, and microscopically it was made up of strands of anaplastic tumor cells freely invading the surrounding breast tissue. Twenty-seven of the 40 axillary nodes removed contained carcinoma cells.

Comment.—It is our belief that Paget's disease of the nipple results from the extension of intraductal carcinoma distally into the nipple and that it should be treated by radical mastectomy. When the pathology of Paget's disease is considered, it is not surprising that a breast mass often cannot be palpated. Case 8 is especially interesting because over half of the axillary lymph nodes removed at radical mastectomy were involved by carcinoma in spite of the fact that no breast mass could be felt. This case illustrates the necessity of doing a radical mastectomy rather than a mere resection of the nipple or a simple mastectomy for Paget's disease of the nipple.

In Cases 9, 10, 11, and 12 the presenting sign was metastasis to the axillary lymph nodes.

CASE 9.—I. W., a 35-yr.-old white housewife, entered the hospital on April 20, 1947, because of a lump in the left axilla noted two weeks before admission. For about one year previously, aching had occurred intermittently in the left axilla and radiated to the left breast. Examination revealed no masses in the breast, but a mass was felt in the left axilla that was approximately 2.5 cm. in diameter, firm but freely movable. On April 21 Dr. F. L. Payne excised this mass, which proved to be a friable, hemorrhagic lymph node. Microscopic examination disclosed a mucoid type of carcinoma within the node. The morphology of the carcinoma was considered consistent with an origin in the breast, although not necessarily diagnostic. Studies to determine the origin of the tumor included roentgen examinations of the chest and the entire gastrointestinal tract, but these uncovered no abnormalities. Examination of the breasts by several observers disclosed no masses. On April 26 a left radical mastectomy was performed. In the left lower quadrant of the breast, buried deeply in the stroma, was an uncircumscribed, hard, 1.0-cm. mass, which on histological examination proved to be a characteristic mucoid carcinoma. It is striking that the only axillary lymph node involved with cancer was the one removed for biopsy, the 27 removed at radical mastectomy being free of malignant cells. A recent follow-up examination disclosed no evidence of recurrence or metastasis.

CASE 10.—G. S., a 46-yr.-old housewife, entered the hospital on Aug. 18, 1948, because of a "lump in the left armpit," noted two months previously. The axillary mass was firm but freely movable. Several examiners were unable to locate a definite mass within the breast, although the upper outer quadrant was diffusely thickened. The day after admission the axillary node was excised by Dr. J. E. Rhoads and a biopsy taken of the suspected area of the breast. The area of breast removed measured 2 by 1 by 0.4 cm. Gross and microscopic studies revealed dilated ducts filled with coagulum and surrounding round-cell infiltration. No malignant cells were discovered. The pathologist made a diagnosis of chronic cystic mastitis.

The axillary node measured 4 by 3 by 1.0 cm. and on microscopic examination was noted to be filled with cords of anaplastic tumor cells, occasionally forming tubules.

The following studies, made because a primary lesion could not be identified in the breast, did not disclose significant abnormality: roentgen examination of the gastrointestinal tract and chest; intravenous urogram; cholecystogram; and proctosigmoidoscopy. Believing that the most likely site of the primary lesion was the breast, Dr. Rhoads removed the left breast and axillary contents on Aug. 26. Gross examination disclosed a firm, fixed nodule, 1.5 cm. in diameter, deep in the breast parenchyma on the lateral side of the nipple. It lay well below and medial to the previous breast biopsy site. On microscopic study this mass proved to be the primary tumor. None of nine axillary lymph nodes removed at radical mastectomy contained tumor cells.

The patient reentered the hospital on Jan. 3, 1949, because, at the follow-up examination, dimpling of the skin of the right breast was discovered just lateral to the areola. No definite breast mass was evident. Excision biopsy of the area, performed the day after admission, revealed carcinoma, and a radical mastectomy was performed. No axillary metastases were discovered on microscopic examination. This carcinoma differed cytologically from the carcinoma of the left breast in that it appeared better differentiated. The fact that the tumor of the right breast was small and had not metastasized to the axillary nodes would suggest that the tumor of the right breast was an independent primary carcinoma. Follow-up examination in September, 1950, revealed no evidence of recurrence.

CASE 11.—T. W., a 63-yr.-old Negro housewife, entered the hospital on Aug. 29, 1950, because of a lump in the left axilla first noticed a month and a half previously. The patient knew of no abnormalities of the left breast, and no masses could be felt by any of several observers. Roentgen examinations of the chest and skeleton were negative. The lymph node was removed by Dr. John Thomas on Aug. 30, and examination by quick-frozen section revealed carcinoma. Because of the probability that the lymph node was invaded by metastatic carcinoma from the left breast, a left radical mastectomy was immediately performed. Careful sectioning of the breast revealed a tumor 1.0 cm. in diameter just beneath and to the right of the areola. Microscopic examination confirmed the diagnosis of carcinoma.

It is interesting that, among the 20 axillary lymph nodes removed and examined microscopically, carcinoma was found only in the one that brought the patient to the hospital.

The above three cases support the conclusion of Jackson [3] and Cogswell [4] that, in the female, metastatic carcinoma of the axillary lymph nodes in which the primary site cannot be discovered by physical examination and laboratory studies probably arises from a hidden mammary carcinoma and that radical mastectomy is justified. Under these circumstances, however, carcinoma of the breast is not always disclosed by radical mastectomy, as is illustrated by the following case.

CASE 12.—A. R., a 52-yr.-old white practical nurse, entered the hospital on Nov. 19, 1948, because of a mass in the right axilla, which she had noted five weeks previously. Over the fourth rib in the axilla lay a 5.0 cm. by 3.0 cm. round, discrete mass that was freely movable. None of the several examiners could find any breast masses.

The axillary mass was removed on Nov. 20 and microscopic examination disclosed a lymph node almost completely replaced by cellular tumor tissue thought to represent undifferentiated carcinoma. The following studies were performed in an attempt to identify the primary lesion: roentgen examination of the gastrointestinal tract with barium sulfate; intravenous urogram; roentgen examinations of the chest and skeletal system, and cholecystogram. No significant abnormalities were revealed. After these studies had failed to disclose a primary lesion, a right radical mastectomy was performed on the strength of a tentative diagnosis of carcinoma of the breast. A thorough examination of the breast failed to reveal carcinoma, and examination of the axillary nodes excised at this operation was also negative. A letter from her physician in December, 1949, stated that the primary tumor had not become apparent, and our last communication from the patient, on May 31, 1950, stated that her general condition had not changed.

In Case 13 the presenting sign was edema of the skin.

CASE 13.—J. H., a 63-yr.-old white business woman, entered the hospital on Sept. 11, 1949, because of edema of the skin of the right breast. A left radical mastectomy had been performed by Dr. I. S. Ravdin two years previously for a carcinoma 8.0 cm. in diameter in the upper, inner quadrant of the left breast. No axillary metastases had been discovered. The patient had been examined at regular intervals of three months and no abnormalities were noted until June, 1949, three months before admission, when it was discovered that the entire right breast seemed denser and heavier than normal. She was then examined at more frequent intervals; the thickening increased and, just before her readmission, edema of the upper outer quadrant appeared. None of several observers was able to feel a mass in the breast.

Dr. Ravdin performed a simple mastectomy on Sept. 12. Gross examination of the removed breast revealed a 2.5 cm. hard nodule deep within the breast tissue caudad to the nipple. The nodule was not attached to skin or to fascia, but was infiltrating the surrounding breast tissue. Microscopic examination confirmed the diagnosis of carcinoma. We regard this as a metastasis from the cancer of the left breast. It is interesting that many of the lymphatics contained small tumor emboli. Probably the blockage of lymphatics by cancer first caused the increased density and thickening of the breast, leading later to edema of the skin.

Comment.—Edema of the skin is usually a late sign of carcinoma of the breast and is usually associated with a palpable mass. Carcinoma that has a tendency to invade lymphatics early may produce lymphatic obstruction of such extent that edema appears before the tumor can be palpated.

In Case 14 the presenting sign was retraction of the skin.

CASE 14.—I. B., a 50-yr.-old white housewife, entered the hospital on Dec. 12, 1949, because of an area of skin retraction in the right breast that had been discovered four weeks earlier at a routine examination in the cancer detection clinic of the hospital. The suspicious area was just medial to the areola, and was not associated with a palpable mass. The retraction was not marked, and the patient was seen in consultation by Dr. I. S. Ravdin, who could not feel a mass but considered that the retraction was suggestive of carcinoma; he performed an excision biopsy of the area on Dec. 13. The quick-frozen section diagnosis was chronic cystic mastitis, but examination of the paraffin sections revealed an intraductal carcinoma with tumor cells invading the surrounding stroma. Accordingly, a radical mastectomy was performed on Dec. 30. The pathologist demonstrated numerous intraductal papillomas showing atypical change but no evidence of carcinoma in either the breast tissue removed at radical mastectomy or in the 41 axillary lymph nodes sectioned.

Comment.—Most intraductal carcinomas first manifest themselves by a palpable mass, nipple discharge, or Paget's disease of the nipple. This lesion, located close to the nipple and immediately beneath the skin, produced retraction of the overlying skin as its initial clinical manifestation.

In Cases 15 and 16 the presenting sign was distant metastasis.

CASE 15.—*Orbital Metastasis.*—R. D., a 56-yr.-old white housewife, entered the hospital on the ophthalmological service of Dr. Francis Adler because of diplopia. Physical examination revealed a small, hard mass in the right supraclavicular area but no evidence of a primary lesion in the breast. The right breast was noted to be larger than the left but the patient stated that she had observed this for many years. Ophthalmological examination revealed a mass above and temporal to the right eye that was pushing the eye downward and inward. Dr. H. A. Zintel excised the supraclavicular mass on Oct. 16, 1947. Gross and microscopic examination disclosed a lymph node largely replaced by undifferentiated malignant cells. Although at first the tumor was thought to be a reticulum cell sarcoma, on further study the diagnosis of carcinoma was made. The patient was presented in tumor conference; none of the several examiners could feel a definite mass in either breast, but some pointed out a suggestive area of skin retraction in the upper outer quadrant of the right breast. Excision biopsy of this area, followed by simple mastectomy, was performed by Dr. Zintel, who stated that no definitely outlined mass could be demonstrated at operation. The biopsy specimen measured 4 by 4 by 4.0 cm. The tissue was essentially fibrous and fatty, but in the white connective tissue representing breast stroma, a moderate number of tiny brownish cysts were noted. A considerable portion of the tissue had an extremely hard texture. Microscopically malignant epithelial cells were noted, interspersed in a great overgrowth of fibrous connective tissue. The lesion was diagnosed as carcinoma of the breast.

CASE 16.—*Abdominal Metastasis.*—E. J., a 50-yr.-old white housewife, entered the hospital on June 15, 1947, on the service of Dr. P. O. Klingensmith. Examination before admission had shown fixed bilateral adnexal masses thought to be carcinoma of the ovaries. Sixteen years previously a left radical mastectomy had been performed in another hospital for carcinoma, and axillary metastases were demonstrated pathologically. On her admission to the Hospital of the University of Pennsylvania no masses could be felt in the right breast or in either axilla. Operation was performed on June 17 by Dr. Klingensmith and Dr. H. A. Zintel. The peritoneal cavity contained bloody fluid. Both the small intestine and its mesentery were matted with hard, white plaques grossly resembling carcinoma. Both ovaries were enlarged, forming masses about 7.0 cm. in diameter which were hard and nodular. Palpation revealed involvement of the posterior wall of the stomach and the transverse colon. The gross operative diagnosis was carcinoma of the stomach with metastases to the ovaries. Biopsies were taken from the mesentery of the transverse colon, the right ovarian mass and the peri-

toneum, and the procedure terminated. Microscopic examination revealed infiltration by cords or masses of fairly small and uniform cells separated from one another by dense, acellular bands of hyaline stroma. Pleomorphism was not striking and no mitotic figures were seen. The morphology was consistent with carcinoid as well as with carcinoma: special stains did not disclose argentaffin granules. The tumor was considered metastatic although the primary site remained undiscovered.

Following discharge from the hospital the patient was given palliative roentgen-ray therapy and did remarkably well until October, 1949, when she developed partial intestinal obstruction and was readmitted to the hospital. Exploratory operation was performed on Dec. 19, 1949, in the hope of relieving the obstruction but the tumor growth was so extensive that the site of obstruction could not be determined. She died on Dec. 25. At no time during her illness was a mass felt in the right breast despite repeated physical examinations. At post-mortem examination, however, Dr. H. T. Enterline discovered a 1.0 cm. nodule in the upper outer quadrant of the breast. Microscopic examination of this mass, as well as of right axillary and mediastinal lymph nodes, revealed a carcinoma morphologically identical with the tumor in the ovaries and peritoneum. Although the peritoneum was the site of extensive carcinomatosis, abdominal involvement was limited to the peritoneum, mesentery, and ovaries. There were no pulmonary metastases.

In the light of the morphologic identity of the abdominal and right mammary lesions, the involvement of right axillary lymph nodes and a morphologic picture quite consistent with mammary carcinoma (Figs. 2 and 3), we believe this case to represent an instance of latent breast carcinoma with widespread metastasis. The possibility must be considered that all of the neoplastic lesions present at autopsy were secondary to the cancer of the left breast, although the 18-yr. interval between left radical mastectomy and death makes it seem more likely that the carcinoma in the right breast was a new primary tumor.

COMMENT

Of these 16 patients with occult mammary carcinoma, eight fall into two well-recognized groups, the presence of Paget's disease of the nipple leading to the diagnosis in one group and the symptom of nipple discharge in the other. We believe this is noteworthy because Paget's disease of the nipple is not regarded as a manifestation

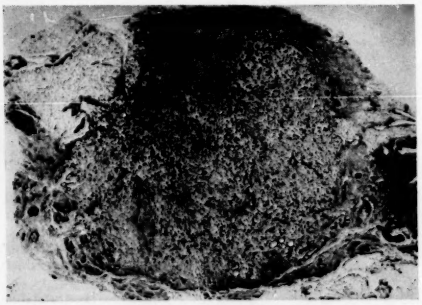
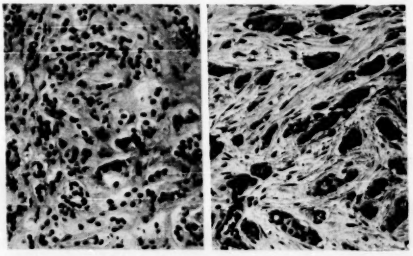


Fig. 2 (Case 15).—Cross-section of the whole mammary carcinoma, which was not detected during life despite widespread abdominal metastasis. Hematoxylin and eosin; × 11.

of intraductal mammary carcinoma by all observers, and there are those who interpret nipple discharge as definite evidence of a benign lesion. Although three of these eight patients had axillary lymph-node metastases, the breast carcinomas associated with these two presenting signs may still be in an early stage of their evolution. That skin retraction may also be an early sign of mammary carcinoma is illustrated by Case 13. In three cases the breast carcinoma first became manifest clinically by axillary lymph-node metastases, in itself a sign of advancement of the disease. It is of interest that in each of these three cases the lymph node initially removed proved to be the only one in which



A *B*

Fig. 3.—Photomicrographs of *A*, the mammary tumor, and *B*, a peritoneal metastasis. Hematoxylin and eosin; × 231.

metastatic carcinoma was found. In the remaining three cases the diagnosis of breast carcinoma could not be established until signs of hopelessly advanced disease were present, skin edema in one instance and distant metastasis in two.

Four of these reported cases had bilateral mammary cancer. In two instances (Cases 13 and 16) the occult carcinoma may well have been a metastasis from a previously treated carcinoma of the opposite breast. Two other patients (Cases 1 and 10) with occult carcinoma of the breast subsequently developed cancer in the remaining breast and in one of these (Case 10) the second cancer manifested itself initially by skin retraction in the absence of a palpable mass.

SUMMARY

The first sign of carcinoma of the breast is not always a palpable mass. Physicians should be on the alert for discharge from the nipple, erosion of the nipple, retraction or edema of the skin over the breast and enlargement of axillary nodes, any one of which signs may indicate mammary carcinoma even in the absence of a palpable mass in the breast. We have reported 15 patients with occult carcinoma of the breast in whom operation was performed before a breast mass could be palpated, the diagnosis having been suspected because of one or more of these signs. A 16th case is included in which the breast was identified as the source of widespread abdominal metastasis only at autopsy.

3400 Spruce St.

Causes of Death in Children.—The so-called degenerative conditions—cardiovascular disease and cancer—now cause more deaths among children of school age in the United States than all the infectious and parasitic diseases combined. The array of infectious diseases frequently referred to as "childhood diseases" has in the past been associated with the young age group in various ways. . . . The infectious diseases are no longer more frequent than other diseases as a cause of death among school-age children.—Harold A. Kahn, M.D., Changing Causes of Death in Childhood, *Public Health Reports*, Sept. 28, 1951.

GASTROINTESTINAL HEMORRHAGE DUE TO NEUROFIBROMATOSIS

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and
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Gastrointestinal hemorrhage, both acute and chronic, may result from involvement of the bowel in a generalized process of neurofibromatosis, also known as von Recklinghausen's disease. In a classical case of this disease a diagnosis is not difficult to make. In such cases, intestinal hemorrhage of obscure origin should be easy to evaluate. Often, however, neurofibromatosis occurs as a subclinical disease and the diagnosis may be readily overlooked. The patient may have no more than a few pigmented areas and/or a few subcutaneous nodules. However, it must be remembered that neurofibromatosis is always a generalized disease and bowel involvement is not uncommon. Therefore, when gastrointestinal bleeding of obscure origin is encountered, an effort should be made to rule out the possibility of neurofibromatosis; and conversely, when intestinal hemorrhage or chronic anemia occurs in a case of neurofibromatosis, gastrointestinal involvement should be suspected.

We are reporting two cases of severe gastrointestinal hemorrhage produced by gastrointestinal neurofibromatosis to illustrate the difficulties frequently attending the diagnosis. In both instances the diagnosis of bleeding peptic ulcer was abandoned with reluctance by the clinicians, despite the fact that no objective evidence of peptic ulcer was ever obtained.

REPORT OF CASES

CASE 1.—H. M. E., a 43-year-old white male gas station attendant, was admitted to the hospital on Feb. 15, 1950, for the treatment of recurrent amebiasis. His chief complaint on admission was the presence of tarry stools for two days, associated with pain in the epigastrium, relieved by food and aggravated by bending, stooping, or lifting. As long as he could remember, he was troubled with epigastric distress when scooping grain or pitching hay. It was noted that his skin was covered with pigmented patches, which the patient stated had been with him as long as he could remember and had never given any trouble. He also stated that his mother and one of his brothers had similar pigmented patches, as well as a few small skin tumors. Physical examination was not remarkable with the exception of the skin. The following comment was made by the examiner:

> The complexion is dark because of numerous pigmented areas resembling freckles. These are particularly numerous in the various skin creases. In addition, there are a number of brownish, pigmented areas, some several centimeters in diameter, which have the appearance of *café au lait* patches. There is a small subcutaneous tumor about 1.5 cm. in diameter in the center of the forehead. This is fluctuant and nontender. A few smaller (0.5 cm. diameter) masses are noted over the abdomen and extremities.

The patient's past history is extremely interesting and worthy of some study. He was first seen in January, 1948, at which time he complained of tarry stools for about five days, with epigastric distress, nausea and vomiting, and generalized weakness. At that time he had been treated by his personal physician for two years as a peptic ulcer patient. Apparently his chief symptom was intestinal bleeding. He maintained himself on a strict ulcer regimen and was asymptomatic until Dec. 25, 1947. He attributed his bleeding at that time to an overindulgence in the Christmas spirit. The blood cell count at that admission was 3,500,000 red cells and the hemoglobin value was 47%. The anemia responded to medical treatment. The gastrointestinal series was negative and showed no evidence of ulceration. Nevertheless, a diagnosis of duodenal ulcer with hemorrhage was made. He was discharged in February, 1948, returning to the hospital in July, 1948 (five months later), again for intestinal bleeding. No evidence of anemia was present at this time. The gastrointestinal series was repeated and a motor meal was studied. A small esophageal hiatus hernia was discovered at this examination, but the progress of the motor meal was normal and no evidence of peptic ulceration could be disovered. However, in studying his stools, cysts of Endamoeba hystolytica were discovered, and amebiasis was decided to be the cause of his symptoms. He was given amebacidal drugs and discharged on Sept. 16, 1948. He was readmitted in December, 1948, when his stools were checked and the amebiasis found to be apparently controlled. He was asymptomatic from then until the present admission.

Fig. 1.—Photograph of the surgical specimen, indicating a relatively localized and slight involvement of the jejunum in neurofibromatosis. The largest of these tumors was identified as the source of the intestinal hemorrhage.

At this admission a mild anemia was present, 3,600,000 red blood cells and 12 gm. of hemoglobin being found. The gastrointestinal series was again repeated and again found to be normal with the exception of a small hiatus hernia. A barium enema was likewise normal. Surgical consultation was requested and because of the chronic anemia and the history of abdominal pain on exertion, it was felt that laparotomy and repair of the hiatus hernia was indicated. He was accordingly prepared for surgery, and on March 20, 1950, the abdomen was opened and explored. Numerous tumors were discovered, varying in size from a pinhead to the size of a man's thumb, involving the jejunum from the ligament of Treitz to approximately its midportion. A careful examination of the hiatus hernia revealed it to be small and incomplete and covered by the left lobe of the liver. It did not seem likely that this hernia was symptomatic, and it was felt that treatment of the tumors would alleviate the symptoms. A routine appendectomy was done and 20 cm. of tumor-bearing bowel was removed, immediately distal to the ligament of Treitz (Fig. 1 and 2). The continuity of the bowel was restored by end-to-end anastomosis, and two small pinhead-sized tumors were removed from the serosa without penetrating

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V 14
1951

the mucosa. One additional navy-bean-sized tumor was removed from the mid-jejunum by segmental resection and end-to-end anastomosis. The patient made an uneventful recovery from this operation. The pathologist's diagnosis was: (1) neurofibroma, multiple, of small intestine; one neoplastic growth undergoing sarcomatous changes (Fig. 3), (2) lymphadenitis, chronic, (3) normal appendix. Before discharging the patient the nodule on his forehead was excised for biopsy. This confirmed the diagnosis of generalized neurofibromatosis (von Recklinghausen's disease).

Comment.—This patient was observed by various doctors over a period of four years without a diagnosis of von Recklinghausen's disease being made. Even when this diagnosis was made, its significance was not appreciated. Making a diagnosis of peptic ulcer in the face of a repeatedly negative gastrointestinal series cannot be condoned. Confusing the symptoms of intestinal neurofibromatosis with intestinal amebiasis and hiatus hernia is understandable. These latter conditions were eliminated by a therapeutic test for the former and laparotomy for the latter.

CASE 2.—W. F. N., a 62-year-old white male farm laborer, was admitted to the hospital on May 5, 1950, for observation of a state of chronic anemia. He was in no particular distress and his blood count was normal. His past history revealed that he was first seen in August, 1945, at which time he entered the hospital for treatment of a duodenal ulcer with secondary anemia.

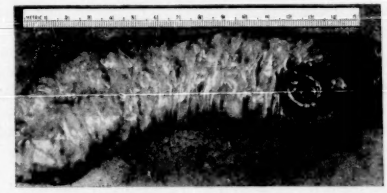

Fig. 2.—The surgical specimen opened to demonstrate the mucosa. It can be noted that the largest of the tumors is the only one protruding into the bowel lumen. Furthermore, the mucosa over it is largely intact. The ringlike nature of the protuberance gives a false appearance of an ulcer crater. The ring is in reality merely the edge of the tumor and is covered by intact mucosa. The area of ulceration is represented by the small dark area in the center of the ring.

Physical examination at that admission noted the generalized neurofibromatosis and the examiner made the following observation:

The entire surface of the body is studded with nodules, varying in shape and size from that of a pea to a walnut. There also are numerous areas of pigmentation of irregular sizes and shapes scattered over the body, the color being similar to that of freckles.

X-ray examination of the gastrointestinal tract was negative. The esophagus, duodenum, and colon were all reported as normal. Despite the negative gastrointestinal series, the patient was discharged with diagnoses of: (1) duodenal ulcer with hemorrhage, (2) generalized neurofibromatosis (von Recklinghausen's disease), (3) anemia, secondary to diagnosis 1 [*sic!*].

He was next admitted to the hospital in February, 1946 (six months later), for treatment of a recurrent duodenal ulcer with anemia. He stated that since his previous discharge he felt well except for periods of weakness, and his hospitalization was at the suggestion of his private doctor who discovered anemia to be present. The x-ray examination was repeated and the gastrointestinal tract was again found to be free of any demonstrable, intrinsic lesions. A repeated gastrointestinal x-ray confirmed the fact that no disease was present in the duodenum. Biopsy of one of the skin nodules confirmed the previous diagnosis of von Recklinghausen's disease. He was given peptic ulcer treatment in spite of the negative x-rays and a free gastric acid of only 9 degrees and was discharged with the diagnoses of (1) recurrent duodenal ulcer (!), (2) von Recklinghausen's disease, and (3) anemia, secondary to diagnosis 1 (!).

He was readmitted on Feb. 8, 1950 (one year later), for the treatment of a duodenal ulcer with hemorrhage. Moderately severe hypochromic anemia was discovered to be present. The red blood cell count was 3,500,000 with only 6 gm. of hemoglobin. The gastrointestinal work-up was repeated with negative

Fig. 3.—Microphotograph of a histological section taken through the base of the ulcer.

Fig. 4.—Photograph taken at the operating table. Because of lack of critical focus, the diffuse involvement of the bowel is difficult to show. The larger tumors are easily identified by the arrows.

results as previously found. He was treated for the anemia and was discharged with the diagnoses of: (1) multiple neurofibromatosis involving the skin, (2) secondary anemia, cause undetermined; but a note was made that it was the opinion of the examiners that the bleeding was due to neurofibromatosis in-

volving the gastrointestinal tract, which could not be demonstrated by x-ray. It was recommended that he return to the hospital after a period of six weeks for further observation.

At the present admission his blood cell count was normal although the red cells were described as being microcytic. Biopsies were taken of several tumors of the skin which were described as being angioma, lipoma, and neurofibroma. These findings were felt to be compatible with a diagnosis of von Recklinghausen's disease. He was prepared for surgery, and on May 31 a laparotomy was done. Numerous tumor nodules were found extending throughout the length of the small bowel. There were none found in the colon. The largest of the tumors was about 5 cm. in diameter and on a rather slender pedicle (Fig. 4). Two of the largest tumors were removed by means of a partial resection of the bowel and a transverse closure of the defect. It was impossible to consider removing all of the tumors because of their vast number and, since the two largest had been excised, it was felt that further attempts at removing the tumors were unwarranted. A routine appendectomy was, therefore, done and the abdomen was closed in layers. The patient made an uneventful recovery. The pathologist's report was (1) fibromyoma of the small bowel, and (2) neurofibroma of the appendix.

Comment.—This case indicates that something was learned by our experience with the previous one. At any rate, a diagnosis of intestinal neurofibromatosis was made and the patient was operated on for the treatment of that condition. Here again it is remarkable how reluctant his physicians had been to abandon the diagnosis of bleeding peptic ulcer despite a total lack of objective evidence to indicate an ulcer.

COMMENT

Ewing [1] states that neurofibromatosis "consists of a congenital and often hereditary disturbance in the growth and differentiation of the fetal neuroectoderm, and a maladjustment with the mesoblastic tissues which it innervates." The multiple tumors, therefore, may involve any mesenchymal tissue, and as a result the manifestation of the disease may be protean. When there is concomitant skin involvement, the diagnosis is usually obvious and is seldom missed by the astute clinician. When skin involvement is minimal, the manifestations of the disease may be very puzzling. Indeed, many of the specific manifestations of neurofibromatosis have, in the past, been classified as separate disease entities, such as osteitis fibrosa cystica, tuberous sclerosis, hairy nevus, and elephantiasis.

When the gastrointestinal tract is involved, the symptoms produced are very vague. The tumor arises somewhere in the mesenchymal tissues and gradually grows in size until the overlying mucosa becomes ulcerated. Ulceration of the mucosa is always owing to the presence of a growing tumor under it and not to direct involvement. This is characteristic of all mesenchymal gastrointestinal tumors. Since ulceration and subsequent hemorrhage is a function of the mucosal pressure produced by the tumor, it becomes obvious that bleeding will occur at different times in the various tumors. A small, submucosal nodule growing into the bowel lumen will produce ulceration much sooner than a larger, subserous nodule growing outward into the peritoneal cavity. Bowel obstruction is seldom produced, and pain is minimal. A tumor large enough to be palpable will usually force a surgical exploration, even if the diagnosis of neurofibromatosis is missed. The condition, however, should be suspected long before the tumor becomes palpable. The diagnosis depends on the demonstration of two facts: (1) microcytic anemia due to chronic intestinal hemorrhage of obscure origin (or acute intestinal hemorrhage of obscure origin), and (2) evidence of neurofibromatosis.

Surgical intervention is indicated once the diagnosis is suspected. The intestinal bleeding can only be controlled by resecting the involved portion of bowel. Even though elimination of the disease is not an attainable goal, control of chronic hemorrhage is sufficient indication for operation. Sarcomatous change in the tumors of neurofibromatosis has long been recognized as a distinct possibility and is an added incentive for surgical exploration. The probable incidence of malignant degeneration of each tumor would be a difficult thing to evaluate. It is likely, however, that rapidly growing nodules or a sudden change in size of an old nodule indicate that a malignant change has already occurred. Furthermore, it seems logical, and is compatible with the behavior of other types of malignancy, that when malignant degeneration occurs it will be multicentric rather than localized. It is to be expected, then, that operation for the removal of the tumors of von Recklinghausen's disease will result in the discovery of occasional malignancies and will occasionally be followed by malignant degeneration of a remaining nodule.

The technique of resection of intestinal neurofibroma should include an appreciation of the activity of these tumors. Since they seldom metastasize to lymph nodes, a block dissection such as is used for carcinoma is not indicated unless lymphatic involvement is demonstrated. Local excision at a sufficient distance from the tumor is usually adequate. Segmental resection of the bowel is indicated if the nodules are so closely scattered that individual excision is impractical. Associated precautions such as preparing the bowel with antibiotics and correcting the anemia before operation should not be neglected.

CONCLUSIONS

Generalized neurofibromatosis (von Recklinghausen's disease) may involve the gastrointestinal tract. Early intestinal neurofibromatosis has few symptoms and few positive clinical findings. Intestinal neurofibromatosis must be suspected when a patient with generalized neurofibromatosis shows signs of acute or chronic intestinal hemorrhage.

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1. Ewing, J.: Neoplastic Diseases: A Treatise on Tumors, ed. 4, Philadelphia, W. B. Saunders Company, 1940.

The Diabetic in Industry.—Diabetics are now following diverse occupations and holding positions in a wide variety of major industries. There are few occupations, indeed, from which diabetics who take insulin need be excluded. These few are those in which the worker has more or less constantly in his hands the safety of others as well as himself. Such few occupations are those of locomotive engineer, airplane pilot, bus driver or worker on high buildings or with potentially dangerous machinery. Although in such positions the chance of hazard to the worker or his associates from a severe insulin reaction or incipient acidosis is relatively small, the possibility exists, and there is an abundance of other work for the diabetic to do.—Harry Blotner, M.D., and Alexander Marble, M.D., Diabetes Control: Detection, Public Education and Community Aspects, *New England Journal of Medicine*, Oct. 11, 1951.

V 14
1951

CLINICAL NOTES

RESECTION OF PRIMARY TUMOR OF COLON THREE YEARS AFTER EXCISION OF METASTATIC TUMOR

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and
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Investigators [1] have found that the incidence of multiple primary malignant tumors in all cases of malignant tumors is about 3%. Of these tumors, roughly half occur simultaneously and half after varying intervals of time.[1a] It has been computed [2] that an individual with one malignant tumor is more likely to have, subsequently, more primary malignant tumors than can be accounted for on the basis of chance alone. These multiple lesions may or may not occur in the same organ.

The incidence of multiple primary carcinomas of the colon has been estimated to be from 3.5% to 5%,[3] these occurring either simultaneously or at different times. Reports of such cases have been rather numerous [4] and serve to stress the point that palpation of the entire colon should be performed at the time of laparotomy for carcinoma. In two reported cases [5] each patient had four distinct primary carcinomas of the colon removed at different times.

The radical removal of metastases to lymph nodes is, of course, common, but surgical attack upon metastases to distant organs is still infrequent. Three organs principally lend themselves to the successful surgical eradication of metastases: the liver, the lung, and rarely the brain.

Since the first reported case of excision of metastases in the liver in 1888,[6] several similar cases and groups of cases have appeared in the literature.[7] Some of these operations resulted in apparent cure of the disease. The first known case report of successful excision of pulmonary metastases was made in 1944 [8]; twelve years previously the patient had undergone lobectomy for a solitary metastasis. A report on the cases from the literature and from various clinics, in 1947,[7e] listed a total of 24 cases of pulmonary resection for a solitary metastasis. Half of the patients were free of recurrence at the time of the report. Another group of several cases was reported a few months later,[9] one of which is of particular interest. The patient had had surgical removal of an adenocarcinoma of the sigmoid in 1944, underwent right upper pulmonary lobectomy 22 months later for metastatic adenocarcinoma and had a metastatic lesion of the brain removed some six months after the lobectomy. The patient was well at the time of the report, two months later.

The incidence of metastatic lesions of the brain in all forms of intracranial lesions has been variously reported as being from 4.2% to 27.2%,[10] the probably correct figure being between 10% and 15%. In a series of 150 routine autopsies in which metastatic brain lesions were found,[10e] the brain proved to be the only metastatic focus in over one-fourth of the cases. Although this fact might seem to encourage attempts at ablation of metastases to the brain, actually successful results following such attempts are extremely rare.

Dandy has stated that [10c] "a cure has probably never resulted from removing an intracranial metastasis. Occasionally patients have been entirely relieved of symptoms for two or three years when a metastasis could be removed with a zone of normal brain." Oddly enough, it must have been at about the time he wrote these words that he performed the craniotomy on the patient whose case is to be reported. As stated above, the most unusual feature in this case is that the primary tumor was not to be removed until two and one-half years later.

REPORT OF CASE

S. L., a white man, was admitted to the Johns Hopkins Hospital on the neurological service in December, 1943, at the age of 54. He complained chiefly of severe frontal headaches for five months, with occasional radiation to the occipital region. There had been progressive difficulty in walking, a shuffling gait, poor muscular coordination and concentration, and occasional morning vomiting. These were all subject to wide daily variation. On examination he was seen to be well developed, somewhat thin, and with poor memory and poor powers of concentration. No abnormal conditions were found except on neurological examination, which showed left homonymous hemianopsia with slight bilateral papilledema, most noticeable on the right. There was loss of position sense in the left foot and of stereognosis in the left hand. The patient was extremely unsteady on his feet and the Romberg test was positive. No definite motor disturbances were present. A diagnosis of tumor in the right parieto-occipital

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2. Bugher, J. C.: The Probability of Chance Occurrence of Multiple Malignant Neoplasms, Am. J. Cancer **21**: 809-824, 1934.

3. (*a*) Mayo, C. W.: Multiple Primary Malignant Lesions of the Colon with Resection. Report of An Unusual Case, Proc. Staff Meet., Mayo Clin. **15**: 479-480, 1940. (*b*) Sheinfeld, W.: Synchronous Colon Carcinomas of Multicentric Origin, New York J. Med. **48**: 85-87, 1948.

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5. Mayo.[3a] Edwards.[4i]

6. Garré, C.: Beiträge zur Leber Chirurgie, Beitr. klin. Chir. **4**: 181-196, 1888-1889.

7. (*a*) Thorek, P.: Partial Colectomy with Partial Hepatectomy: Carcinoma of the Splenic Flexure with Solitary Liver Metastasis, J. Internat. Coll. Surgeons **10**: 606-610, 1947. (*b*) Garré.[6] (*c*) Hochenegg, J.: Ein Beitrag zur Leberchirurgie, Wein. klin. Wchnschr. **3**: 1008-1009, 1890. (*d*) Keen, W. W.: On Resection of the Liver, Especially for Hepatic Tumors Boston M. & S. J. **126**: 405-409, 1892. (*e*) Cullen, T. S.: Large Carcinomatous Tumor of the Liver, J. A. M. A. **44**: 1239-1247 (April 22) 1905. (*f*) Haim: Resection of Liver in Malignant Tumors, Casop. lék. Česk. **64**: 1150-1151, 1925. (*g*) Nissen, R.: Einbruch der krebsigen Gallenblase in den rechten Leberlappen: Entfernung mit ausgedehnter Leberresektion, Deutsche. Ztschr. Chir. **229**: 143-144, 1930. (*h*) Möller, W.: Leberresektion wegen Krebsmetastase, Acta chir. scandinav. **78**: 103-120, 1936. (*i*) Cattell, R. B.: Successful Removal of Liver Metastasis from Carcinoma of Rectum, Lahey Clin. Bull. **2**: 7-11, 1940. (*j*) Brunschwig, A.: Radical Surgery in Advanced Abdominal Cancer, Chicago, University of Chicago Press, 1947, pp. 216-223. (*k*) Wangensteen, O. H.: Note on Excision of Hepatic Metastases, Surg., Gynec. & Obst. **81**: 1-24, 1945. (*l*) Raven, R. W.: Partial Hepatectomy and Right Hemicolectomy for Carcinoma of the Hepatic Flexure, Brit. M. J. **2**: 249-250, 1947.

region was made. Dr. Dandy performed a craniotomy on Dec. 13 and excised the entire mass intact; this was about as large as one's fist (7 × 6 × 4.5 cm.), very hard, and weighed 86 gm. The bone flap was replaced. On pathological examination the specimen was noted grossly to be fairly well circumscribed except at one portion where it invaded the cortical tissue. On

Fig. 1.—A section through the border of the metastatic lesion removed from the right occipital region of the brain in 1943. This shows undifferentiated carcinoma in the brain (× 215).

microscopic examination it was shown to consist of large, irregular, undifferentiated cells with areas of necrosis here and there. The cells were definitely not those of a brain tumor but rather of an epithelial carcinoma of some sort. The microscopic appearance suggested that of a lung tumor (Fig. 1).

The postoperative course was uncomplicated, with rapid disappearance of the preoperative complaints. An x-ray film of the chest showed no pulmonary lesion, but further study was not carried out.

For some 25 months the patient was well and conducted his business affairs regularly, but at the end of this time he began to suffer with burning epigastric pain associated with intermittent diarrhea; there was occasional streaking of the stools with bright blood and the loss of 12 to 15 lb. (5.4 to 6.8 kg.) in weight.

Five months after the onset of these symptoms the patient was again admitted to the hospital and was referred to us by Dr. F. J. Otenasek, who had assisted Dr. Dandy at the craniotomy. On this examination there was found to be residual, complete, left homonymous hemianopsia, evidence of moderate loss of weight, a hemoglobin reading of 9.8 gm., and a freely movable mass deep in the right lower quadrant. A gastrointestinal series was negative, but a barium sulfate enema showed a definite deformity of the cecum due to neoplasm.

On Aug. 12, 1946, exploratory laparotomy was performed by one of us (I. R. T.). The cecum was found to be the seat of a dense scirrhous tumor aproximately 7 cm. in diameter, situated entirely within the wall of the cecum. The ascending colon above this appeared normal, but a similar mass was felt in the transverse colon. This second mass seemed to be attached by a rather narrow pedicle to the mesenteric border of the colon. The rest of the colon was normal until one reached the lower sigmoid where a large, soft papilloma could be felt within the bowel. This measured about 4 cm. in length and 2 cm. in width. A decision was made to resect the two malignant-appearing tumors and to leave the benign-appearing one in place for the present. Accordingly, the lower 6 in. (15.3 cm.) of the ileum, the appendix, the cecum, the ascending colon, and the first half of the transverse colon were resected in one block together with their mesenteric attachments. A lateral isoperistaltic anastomosis was made between the terminal ileum and the colon.

Postoperatively the patient did well and was discharged on the 16th postoperative day. The pathologist reported that in the cecum, partially obstructing the ileocecal valve, there was a large fungating ulcerated tumor occupying almost the entire lumen. The serosal surface was puckered and covered by fibrin, but no definite tumor mass could be seen to penetrate the serosa. Several enlarged lymph nodes were felt in the surrounding fatty tissue. At approximately the hepatic flexure there was a second tumor mass 3 cm. in diameter and partially encircling the bowel. This likewise had raised edges and was ulcerated, but it also could not be seen to penetrate the serosal surface. The intervening mucosa of the large intestine contained numerous polyps having narrow bases and pedicles. There were no such polyps in the mucosa of the ileum. The sections showed both tumors to be undifferentiated, mucus-forming adenocarcinomas diffusely infil-

Fig. 2.—A section through the large mass occupying the cecum, removed in 1946, showing undifferentiated, mucus-forming adenocarcinoma (× 265).

trating the wall of the bowel, but neither one penetrated completely through the serosal surface and fatty tissue surrounding the bowel. No metastases were found in six lymph nodes on section (Fig. 2).

After discharge the patient remained in apparently perfect health, but was called back to the hospital after three months for study. Proctoscopic examinations showed a number of small,

8. Barney, J. J. D.: Twelve Year Cure Following Nephrectomy for Adenocarcinoma and Lobectomy for Solitary Metastasis, J. Urol. **52**: 406-407, 1944.

9. Effler, D. B., and Blades, B.: Surgical Treatment of the Solitary Lung Metastasis, J. Thoracic Surg. **17**: 27-37, 1948.

10. (*a*) Cushing, H.: Intracranial Tumors: Notes on a Series of 2,000 Verified Cases with Surgical-Mortality Percentages Pertaining Thereto, Springfield, Ill., Charles C Thomas, 1932. (*b*) Walshe, F. M. R.: Intracranial Tumours: A Critical Review, Quart. J. Med. **24**: 587-640, 1931. (*c*) Dandy, W. E.: The Brain, in Lewis, D.: Practice of Surgery, Hagerstown, Md., W. F. Prior Company, Inc., 1948. (*d*) Globus, J. H., and Meltzer, T.: Metastatic Tumors of Brain, Arch. Neurol. & Psychiat. **48**: 163-226 (Aug.) 1942. (*e*) Rupp, C.: Metastatic Tumors of Central Nervous System: Intracerebral Metastases as Only Evidence of Dissemination of Viscera Cancer, ibid. **59**: 635-645 (May) 1948.

V 14
1951

flat polyps in the lower sigmoid and upper rectum and the large flat polyp with a broad base 12 cm. proximal to the anal orifice, which was the one which had been felt at operation. No ulceration was seen in these polyps. A barium enema revealed a number of additional polyps in the remainder of the transverse colon and in the upper portion of the descending colon. Resection of the remainder of the colon was advised but was refused by the patient.

Again the patient lived normally for about two and a half years after the resection of the colon. He returned to the hospital at that time, however, about five years and two months after the craniotomy, because of a three-week history of intermittent partial intestinal obstruction associated with abdominal cramps and, paradoxically, diarrhea. He had lost about 15 lb. (6.8 kg.) in those three weeks. On examination the homonymous hemianopsia was seen to persist, and in addition the abdomen was moderately distended, with audible, high-pitched active peristalsis, but no masses were palpable. His hemoglobin reading was 14 gm. On x-ray examination an obstructing mass was seen in the left half of the transverse colon, just proximal to the splenic flexure.

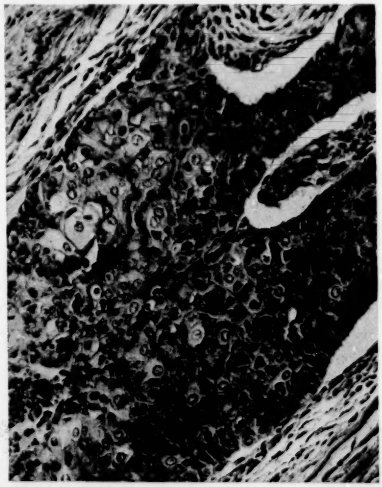

Fig. 3.—A section through the obstructing mass at the splenic flexure, excised in 1949, showing undifferentiated carcinoma invading the bowel wall (× 215).

On Feb. 23, 1949, one of us (I. R. T.) again performed laparotomy, and found a large growth in the transverse colon just proximal to the splenic flexure. Accordingly the old ileocolostomy and all the remaining portion of the transverse colon, together with the entire descending colon down to just above the peritoneal pelvic reflection, were resected. The terminal portion of the sigmoid was opened and a number of small benign-looking polyps were excised. An open end-to-end anastomosis was performed between the terminal ileum and the stump of the rectum intraperitoneally. The operator felt that a complete abdominoperineal resection of the rectum was unnecessary since rectal polyps which might recur could be easily removed by cautery from below. The postoperative course was again uneventful, and the patient was discharged on the 15th postoperative day.

This third surgical specimen showed an ulcerated, circular tumor involving the entire bowel wall toward the proximal end of the specimen, and a large multilobulated polyp in the distal end, with 30 or 40 small polyps throughout the remaining portions of the segment. Microscopically the two large tumors were again seen to be adenocarcinomas (Fig. 3); all the small polyps were apparently benign.

As of April, 1951, the patient was living and apparently well, and was carrying on his normal daily activities. It had been seven years and four months since the large metastastic adenocarcinoma was removed from the brain, four years and eight months since right colectomy was performed, with removal of two separate primary carcinomas of the colon, and two years and two months since left colectomy was performed, with removal of two additional separate carcinomas.The patient remained active and healthy, and no evidence of recurrence of the disease was found on physical examination, April 26, 1951.

SUMMARY

A case is reported in which excision of a metastatic carcinoma from the brain was followed, after an interval of several years, by removal of the primary carcinoma from the colon. Of additional interest in this case is the fact that there were four separate carcinomas of the colon, two removed two and one-half years after the brain operation and two more three years later.

8 W. Madison St.

SCROTAL CYSTOCELE

Bernard Levine, M.D., New York

Inguinal herniation of the urinary bladder is not uncommon. Its incidence has been estimated as varying from 1% to 3% of all inguinal hernias. However, inguinal bladder hernia descending into the scrotum is rare. The purpose of this report is to add two cases of scrotal cystocele to the literature and to review briefly the previously published cases.

Thirty cases of scrotal bladder hernia have been reported. In each of these cases a major portion of the bladder formed all or a part of a large inguinal hernia. The magnitude of the vesical hernia prompted several authors to make the diagnosis of a herniated diverticulum of the bladder.

REPORT OF CASES

CASE 1.—S. M., a man aged 57, was first seen in March, 1947. At that time his complaints were two episodes of hematuria in January, and one attack of left ureteral colic in February. He had nocturia once per night. As the result of an x-ray taken by his physician after the colic, he was told that he had damaged kidneys and that he probably passed some gravel. In an excretory urogram taken by his physician there was noted a bilateral hydronephrosis with hydro-ureters. Function was delayed so that the urinary tract was best visualized at 90 minutes after the injection of the contrast media. The bladder was noted to be either pushed or drawn to the right side of the pelvis.

Physical Examination.—The kidneys were not palpable. There was no costovertebral tenderness. The genitalia were normal. The prostate was firm, smooth, and not enlarged. There was a moderate-sized right scrotal hernia which was known to have been present for seven years.

The residual urine was 10 cc. However, before removing the catheter, pressure was placed on the hernia. This resulted in the delivery of an additional 150 cc. of residual urine. A retrograde cystogram was then made. This revealed the pelvic portion of the bladder to be drawn toward the left side. The major part of the bladder was present in the inguinal and scrotal regions (Fig. 1).

A right inguinal incision was made. The bladder was found to make up the content of an extraperitoneal direct inguinal hernia. The inguinal and scrotal bladder was mobilized and replaced, unopened, into the abdomen, and a hernial repair was done. A urethral catheter was left indwelling for four days to

From the Genito-Urinary Service of the late Dr. S. Lubash, Beth Israel Hospital.

keep the bladder at rest. The postoperative course was uneventful.

Follow-up.—A follow-up excretory urogram one month after operation revealed a normal bladder, normally situated. There was no longer any hydronephrosis on the left side and the dilatation of the right pelvis and ureter was considerably diminished. One year later another urographic study showed maximum excretion of the contrast media at 10 minutes after injection. The urogram was entirely negative except for some minimal residual dilatation of the lower right ureter.

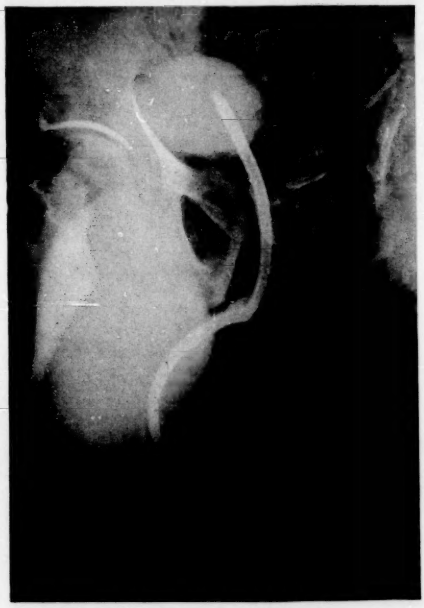

Fig. 1.—Case 1. Preoperative cystogram.

CASE 2.[1]—C. R., a man aged 81, was admitted to the Beth Israel Hospital in April, 1948. His complaints at that time were hematuria of four days' duration, frequency, and dysuria. In December, 1946, he had a suprapubic cystolithotomy and prostatectomy.

Physical Examination.—Excretory urogram and cystoscopy revealed a 4-cm. calculus within the bladder. The upper urinary tract was normal. There was no bladder neck obstruction. A suprapubic cystolithotomy was performed. In looking for the cause of the calculus formation, a large right scrotal hernia of long standing was investigated by cystogram. This showed a right scrotal cystocele (Fig. 2). In view of the patient's age and generally poor condition, operation was deferred. However, he was instructed in the placing of local pressure on the hernia to empty the bladder completely whenever he voided.

Follow-up revealed that he had the hernia operated on by another physician, who resected the herniated bladder. The patient died postoperatively.

Bladder hernias have been described as intraperitoneal, paraperitoneal, and extraperitoneal, depending on their relation to the peritoneum. In the intraperitoneal type a complete peritoneal sac is present and the bladder is contained within it. In the paraperitoneal type the herniated bladder process is found to be covered by a peritoneal sac on one side only, the other side of the bladder being uncovered. In the extraperitoneal type the herniated portion of the bladder is neither contiguous with nor engaged in a peritoneal sac. The commonest forms are the paraperitoneal and the extraperitoneal hernias. Of the 32 cases reported (including the above two), 10 were paraperitoneal, seven were extraperitoneal, and one was intraperitoneal. In the remaining 14 cases, either the type was not mentioned or operation was not performed.

Inguinal bladder hernias have a predilection for the right side. Heineck [2] in a review of the literature found 88 right vesical hernias and 58 left vesical hernias. In scrotal cystocele we have found the right side involved in 20 cases and the left in nine. The side was not mention in three instances. Nine patients had been previously operated on for inguinal hernia.

The patient with a scrotal bladder hernia will usually have some urinary complaints. Frequency, nocturia, and dysuria have been commonly noted. A significant sign is that of two-stage urination. The patient empties the contents of the abdominal portion of the bladder in the first stage and then voids again with the help of manual pressure on the hernia. This was present in nine cases. Eight patients presented themselves complaining of acute urinary retention.

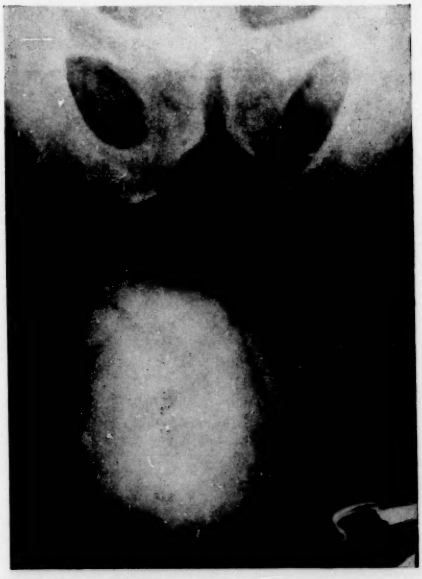

Fig. 2.—Case 2. Preoperative cystogram.

Each of the patients had a moderate to large-sized scrotal hernia. Residual urines were frequently present,

1. Case 2, patient C. R., is reported through the courtesy of Dr. S. Wilhelm.

2. Heineck, A. P.: Hernia of the Urinary Bladder, Surg., Gynec. & Obst. 22: 592, 1916.

V 14
1951

even in the absence of an enlarged prostate. The residual urine may vary considerably from time to time in the same patient, depending on the amount of urine within the hernial sac. The hernia may be fluctuant and emit a flat percussion note. Bierhoff and Unger [3] noted that the scrotal cystocele transmitted light during cystoscopy. Several observers reported that pressure on the scrotal hernia provoked a desire to urinate.

The cystogram, first used by Sgalitzer [4] in 1921, provides an excellent diagnostic measure. It was used to verify the diagnosis in 16 cases. The characteristic abnormality noted was a dumbbell-shaped bladder with a large segment present in the scrotum and the remaining portion of the bladder situated in the abdomen. The bladder was usually drawn somewhat toward the side of herniation. If the patient is allowed to void the contrast media and an x-ray is taken, a residual collection may be seen trapped in the herniated bladder.

In Case 1 there was an associated bilateral hydronephrosis. This was probably caused by an angulation in the region of the ureterovesical junction, which in turn was the result of the bladder displacement. This condition was previously reported in two cases, both of which were postmortem findings.[5] As far as I could determine, Case 1 was the first case of bilateral hydronephrosis due to scrotal cystocele in which the diagnosis was made in the living patient. Repair of the hernia and replacement of the bladder resulted in a correction of the hydronephrosis.

147
951

The treatment of scrotal cystocele is surgical. However, the types of operation have varied. Ten patients were not operated on either because of the patient's poor condition or his refusal. Of these, five patients died.

In six cases the herniated portion of the bladder was excised and repair performed. Five patients did well, and one died.

In Gayet's [6] case a cystostomy had to be resorted to because of acute urinary retention. This patient died postoperatively.

The scrotum was incised in two cases because of an error in diagnosis. Guyon made a diagnosis of right inguinal and scrotal abscess and incised the scrotum, with a urinary gush resulting. An indwelling urethral catheter was inserted, and the urinary fistula closed in 50 days. Plater incised the scrotum thinking that it contained a tumor, and a urinary flow with much sand resulted. A urinary fistula formed which closed eventually.

The bladder was opened and then repaired without vesical resection in three cases. Two of these were opened by error. In the third case Rougier [7] performed an inguinal cystolithotomy prior to hernioplasty. All three had satisfactory end-results.

The most favored procedure, which was done in 11 cases, was replacement of the unopened bladder followed by hernioplasty. All except one were successful. In this case the patient suddenly died on the third postoperative day.[8]

SUMMARY AND CONCLUSIONS

Two cases of scrotal cystocele (scrotal bladder hernia) are presented. This condition may cause bilateral hydronephrosis, and Case 1 is to my knowledge the first case in which the diagnosis was made in the living patient. The literature is briefly discussed.

The preferred treatment of scrotal cystocele is replacement of the unopened bladder and hernioplasty.

130 E. 67th St.

3. Bierhoff, A., and Unger, A. S.: Inguinal Hernia of Bladder, Am. J. Surg. **30**: 506, 1935.
4. Sgalitzer, M.: Die Veränderung der Blasengestalt bei offenen Bruchpforten, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **34**: 132, 1921.
5. Imbert, L.: De la cystocèle inguinale, Ann. d. mal. d. org. génito-urin. **14**: 398 and 530, 1896.
6. Gayet, G., and Cavailher: Hernie inguinale droite de l'uretère et de la vessie, J. d'urol. **45**: 193, 1938.
7. Rougier: Volumineuse hernie de la vessie renfermant un calcul, J. d'urol. **7**: 587, 1917-1918.
8. Kidd, F.: Cystogram of Hernia of Bladder, Brit. J. Urol. **2**: 166, 1930.

GASTROINTESTINAL ALLERGY SIMULATING REGIONAL ENTERITIS

REPORT OF A CASE

George I. Blumstein, M.D.
and
Julian Johnson, M.D., Philadelphia

The patient with repeated attacks of gastrointestinal allergy usually recognizes the relationship between his offending allergen and the onset of symptoms. Since symptoms and signs seldom warrant surgical intervention, the bowel probably is not often visualized during such attacks. In instances of negative abdominal exploration, in which it is suspected that gastrointestinal allergy may be the correct diagnosis, the gross appearance throughout the bowel is that of a mild edema, if any change at all is noted.

In an intestinal resection recently performed by us for presumed regional enteritis, the diagnosis on histological examination proved to be gastrointestinal allergy. The occurrence of striking localized changes in the gross appearence of the bowel, as the result of an allergic response, is probably rare, and the possibility of such an occurrence is surely not widely recognized.

REPORT OF CASE

A. E., male, aged 26, was admitted to the University hospital on July 6, 1949, because of midabdominal cramping pain of eight hours' duration, associated with nausea but with no vomiting. He had had one loose bowel movement that morning. His family physician had advised hospitalization because of right lower quadrant tenderness and mild rigidity. His white blood cell count was 13,400 with 70% polymorphonuclear leucocytes and 2% eosinophils. The urine was normal.

The patient had experienced three previous similar attacks of abdominal distress accompanied by right lower quadrant tenderness. The first had been on March 13, 1949, and had lasted 24 hours. The second, on April 27, 1949, was the most severe and had lasted 48 hours. The temperature had been normal and the white blood cell count 10,000, with 66% polymorphonuclear leucocytes and 5% eosinophils. The third attack had been on June 5, 1949, and had lasted one day. The family physician had considered the possibility of gastrointestinal allergy.

The patient was known to have had asthma since the age of five years. The asthma was usually not very troublesome and was precipitated primarily by respiratory infections. There were no known food, drug or inhalant allergies, but the family history was strongly positive for allergic response on the paternal side.

Assistant Professor of Medicine, Temple University School of Medicine (Dr. Blumstein) and Professor of Surgery, University of Pennsylvania School of Medicine (Dr. Johnson).

Physical Examination.—At the time of the patient's admission to the hospital physical examination revealed mild tenderness and muscle guarding over the right lower quadrant. There was no rebound tenderness. There was marked tenderness on the right side on rectal examination. Sibilant and sonorous rales were heard throughout the lungs.

Preoperative Course.—The dull pain persisted in the right lower quadrant, and on several occasions there were sharp, colicky pains of short duration. The patient had one small, liquid stool. The morning after his admission the tenderness and mild rigidity in the right lower quadrant were still present and rebound tenderness was now evident. The white blood cell count had risen to 16,000 with 67% polymorphonuclear leucocytes and 7% eosinophils. The temperature was still normal. It was thought that the three previous attacks and the present attack might well be due to acute appendicitis.

Operation.—Operation was performed under spinal anesthesia. About 500 cc. of clear fluid were found in the abdominal cavity. The appendix appeared to be normal. The terminal ileum was markedly thickened and edematous. About 35 cm. of the terminal ileum was involved. The appearance was thought to be typical of the subacute stage of terminal ileitis.

In view of the three previous attacks it was reasoned that there was persistent, or recurring, regional enteritis and that immediate resection was justifiable rather than a closure of the abdomen followed by further attacks. The disease was confined to the terminal ileum. The possibility of its being an allergic phenomenon was not considered. About 45 cm. of the terminal ileum was resected, along with the right part of the colon, and an ileotransverse colostomy performed.

The gross pathologic examination indicated that the resection had been carried about 10 cm. beyond the disease process. The diseased ileum was thick and edematous. The vessels of the serosal surface were congested and there was a white mottling under the serosal surface. The mesentery contained several enlarged nodes.

Fig. 1.—Section of the ileum showing marked edema of the submucosa and subserosa with infiltration by myriads of eosinophilic leucocytes.

The surgical pathologist's report on the histologic sections was as follows: "Sections of the termnial ileum show a marked edema of the submucosa and subserosa [Fig. 1]. The entire wall is infiltrated by myriads of eosinophilic leucocytes [Fig. 2]. The process apparently is an entirely allergic one, without any evidence of ulceration of the mucosa or of an ordinary pyogenic infection, and extends from the proximal to the distal margins of the resection. Edema in the areas designated above is much more marked in the distal 30 cm. of the resected ileum. Lymph nodes in the mesentery show dilatation of the sinusoids with edema and eosinophilic leucocytic infiltration. These changes suggest very strongly that this is an allergic enteritis."

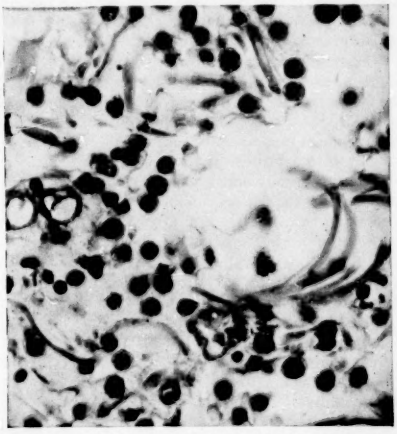

Fig. 2.—An area of the submucosa of the ileum showing massive eosinophilic infiltrate.

Postoperative Course.—The patient made an uneventful recovery and returned to work after a short convalescence. In the next four months he experienced three more attacks of abdominal distress, all following the ingestion of seafood. The first was after eating oysters and lasted two and one-half hours. The second followed a lobster dinner, was quite severe and did not respond to therapeutic doses of ephedrine, epinephrine and antihistaminics. The attack lasted 48 hours. The final attack followed the ingestion of mock turtle soup and lasted 12 hours. The patient has avoided seafood since that attack and has been free of gastrointestinal symptoms.

COMMENT

The diagnosis of gastrointestinal allergy is usually arrived at by clinical means and is not considered valid unless the cause-and-effect relationship between the offending allergen and the gastrointestinal symptoms is established. Peripheral eosinophilia, or the roentgenographic demonstration of gastric retention, abnormal intestinal motility with segmentation of the small bowel and decreased luminal caliber should arouse the suspicion of allergic involvement of the gastrointestinal tract. This involvement occurs most often in patients with other allergic manifestations.

The patient reported fulfils the necessary requirements. He had an allergic background. The relationship between the ingestion of seafood and the attacks of abdominal pain appears to be established beyond any reasonable doubt. Lastly, the microscopic appearance of the resected ileum showed the typical picture of an allergic response.

While the presence of varying numbers of eosinophils in the bowel wall is not abnormal,[1] they are not apt to be seen to the exclusion of all other types of cells except in hypersensitive states The ability of the ileum to act as a

1. Ham, A. W.: Histology, Philadelphia, J. B. Lippincott Company, 1950, p. 440.

V 14
1951

"shock organ" has been amply demonstrated by Gray, Harten, and Walzer.[2]

Although the ileum in this patient presented the gross appearance of regional enteritis, it is unlikely that the allergic state is of importance in the etiology of regional enteritis. Only a single reference was found in the literature [3] suggesting such a relationship. If such a correlation existed, regional enteritis could be expected to occur frequently in allergic patients with other stigmas of a hypersensitive state, patients in whom the cause-and-effect relationship could be demonstrated in a fair proportion of cases. Furthermore, the histological picture seen in regional enteritis does not resemble that seen in other allergic states. It would seem, therefore, that the case reported demonstrates the possibility of an error in diagnosis between the two conditions on gross examination rather than any relationship between them from the standpoint of etiology.

SUMMARY

A male, aged 26, who had had recurrent bouts of abdominal distress was operated on during one such attack because of a presumptive diagnosis of recurrent acute appendicitis. The terminal ileum was involved by what appeared to be reasonably typical regional enteritis. After resection, the histological picture of the ileum was found to be typical of an allergic reaction.

The patient subsequently had three additional similar episodes of abdominal pain, each after the ingestion of seafood. He has remained asymptomatic on a seafood-free diet since the third attack. This case therefore fulfils the clinical, pathologic, and etiological requirements for the diagnosis of gastrointestinal allergy.

2039 Delancey Place (Dr. Blumstein).

2. Gray, I.; Harten, M., and Walzer, M.: Studies in Mucous Membrane Hypersensitiveness: Allergic Reactions in Passively Sensitized Mucous Membranes of Ileum and Colon in Humans, Ann. Int. Med. **13**: 2050-2056, 1940.

3. Tallroth, A.: On Regional Enteritis with Special Reference to Its Etiology and Pathogenesis, Acta chir. Scandinav. **88**: 407-432, 1943.

CHOLECYSTITIS IN CHILDHOOD

REPORT OF A CASE WITH COMMON DUCT CALCULI

Alex W. Ulin, M.D.
Joseph L. Nosal, M.D.
and
William L. Martin, M.D., Philadelphia

In 1949, we studied the literature on cholecystitis in childhood.[1] This included a critical review of most cases described, as well as a survey by letter of 21 major clinics in America and England. We found that many cases of hepatitis and peritonitis had been inaccurately reported as cholecystitis. We judged that there were less than 400 authentic cases of cholecystitis since the first report in 1722.[2] Although only 19 had common duct stone, we learned that cholecystitis in childhood is often complicated by jaundice, apparently obstructive. The significance of this observation lies in the increased incidence of hepatocellular types of jaundice. However, its clinical importance is tempered by the rare occurrence of cholecystitis in young persons.

Our review included two fatal cases of cholecystitis with common duct obstruction, proved at autopsy. The patients' condition had been misdiagnosed as infectious hepatitis. We encountered the same diagnostic problem in a case of calculous cholecystitis and common duct stones in a 13-year-old girl.

REPORT OF CASE

M. G., a 13-year-old white girl, was admitted to the Sunbury (Pa.) Community Hospital on Aug. 16, 1948. She complained of pain in the right upper quadrant of the abdomen, of 24 hours' duration. She had been in excellent health prior to September, 1947, when she first noticed pain in the right upper quadrant. This pain was mild at first and periodic, occurring every two to three weeks, with no definite relation to food intake. During the first few months the pain did not radiate, but remained localized. Later it became more severe, was followed by nausea and sometimes vomiting, and radiated around the right subcostal margin to the inferior angle of the right scapula. In May, 1948, after a typical attack of abdominal pain, she noted jaundice of the skin and scleras, light clay-colored stools, and dark urine. The jaundice subsided after several days. In June the pain and jaundice recurred. She was observed at another hospital, where a diagnosis of infectious hepatitis was made. In July and August, 1948, attacks of pain in the right upper abdominal quadrant recurred, this time without jaundice. She was admitted to the Sunbury Community Hospital during a typical attack of biliary colic; there was no chill or jaundice, and stools and urine were normal in color.

The past medical history, family history, and social history contained no significant information except the fact that the mother had biliary tract disease and had never undergone surgery. Physical examination revealed an acutely ill and dehydrated child. The temperature, pulse rate, and respiratory rate were normal. Tenderness and muscle guarding were noted in the right upper quadrant of the abdomen. There was no evidence of icterus. The laboratory findings, including liver profile and red cell fragility studies, were negative. A cholecystogram revealed nonopaque calculi in the gallbladder; a phrygian cap was present. On Aug. 19, 1948, cholecystectomy and choledochostomy were done. The gallbladder was not acutely inflamed; the wall was blue-gray and slightly thickened. Within the lumen several small stones could be palpated. The hepatoduodenal ligament was acutely inflamed. The common duct was dilated and contained two small mulberry or bilirubin pigment stones. A T-tube was inserted into the common duct. The pathologic diagnosis was chronic cholecystitis with cholelithiasis. The T-tube was removed on the 13th postoperative day, and the patient was then discharged from the hospital. Follow-up visits for two years showed her to be in excellent health.

COMMENT

This case, with its proved pathologic findings, is a fair example of cholecystitis in childhood. It should be noted, however, that common duct stone is an unusual complication, occurring in only 6% of all cases reported. The patient gave a history of jaundice. As in many other cases, the condition was at first diagnosed as infectious hepatitis; the correct diagnosis was made preoperatively. Her symptoms began just after her menarche, when she was 12 years old. Twenty to 30% of the patients in the reported cases were in the 12 to 15 year age group.

In reviewing the literature we found that many cases reported as cholecystitis were not proved. We were able to accept 296 of the cases before 1937 as proved primary cholecystitis in childhood. In the available literature of the following decade we found 30 more cases. Of the

From the Department of Surgery, The Hahnemann Medical College and Hospital of Philadelphia.

1. Ulin, A. W.; Nosal, J. L. and Martin, W. L.: Cholecystitis in Childhood and Early Adolescence, to be published.

2. Gibson, J., cited by Snyder, C. C.: Cholecystitis and Cholelithiasis in Young Children, J. A. M. A. **85**: 31 (July 4) 1925.

326 acceptable cases, cholelithiasis was present in 222, an incidence of 68%. There were 19 patients with common duct stone, an incidence of 6%. Of the 176 acceptable cases reported by Potter [3] in 1928, jaundice was observed in 45, an incidence of 26%. In our 30 acceptable cases, jaundice was a significant sign: 13, or 43%, had a history of jaundice, and 10, or 33%, showed jaundice on admission to the hospital.

Further analysis of the 326 bona fide cases of cholecystitis in childhood revealed that males outnumbered females 3 to 2. The incidence of jaundice was 26 to 43%; and gallbladder calculi were present in 57 to 68% of the cases. In the jaundiced cases, 92% had no common duct stone at operation. Associated cancer of the gallbladder was found in two of the 326 cases.

Preoperative visualization of gallbladder in patient M. G.

SUMMARY AND CONCLUSIONS

True cholecystitis and cholelithiasis are rare in children; but, when the disease does occur, the diagnosis should offer no difficulty if the clinical suspicions raised by history and physical examination are not perfunctorily dismissed. In the differential diagnosis of jaundice and abdominal pain in children, the possibility of cholecystitis should be kept in mind. Surgical treatment is relatively easy and is attended by excellent results. Physicians confronted with a case of cholecystitis in childhood should not hesitate to accept the diagnosis. Jaundice of hepatocellular origin, on the other hand, is the more common and far more important disease. Ill-advised surgery for this condition might be fatal.

230 N. Broad St.

3. Potter, A. H.: Gall Bladder Disease in Young Subjects, Surg., Gynec. & Obst. **46**: 795 (June) 1928.

SPECIAL ARTICLE

CRITICAL SURVEY OF MANUAL ARTIFICIAL RESPIRATION

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and
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In recent years numerous studies have punctuated the growing belief that newer methods of manual artificial respiration are superior to the commonly used Schafer prone pressure method. Experimental data emanating from a broad spectrum of laboratories [1] have indicated a general agreement regarding the low ventilatory efficiency of prone pressure in comparative studies. The observations of Comroe and Dripps [2] on apneic hospital patients confirmed this finding and reawakened interest in manual artificial respiration. The extensive tests of Gordon and associates on warm corpses [3] and on curarized-anesthetized normal human adults [4] have further aided in crystallizing the issue.

The interest of the American National Red Cross, American Medical Association, public utilities and various other national groups has stimulated an attempt to resolve this dilemma. The Department of Defense has assumed the sponsorship of an integrated research program for the critical evaluation of several candidate methods under a variety of experimental conditions. Dr. D. B. Dill, Scientific Director, Chemical Corps Medical Laboratories, has coordinated the research activities of the four participating groups. These

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1. Bruns, O.: Über Weiderbelebung durch künstilche, Atmung, Klin. Wchnschr. **6**: 1548 (Aug. 13) 1927. Mijnlieff, C. J.: Best Method of Manual Artificial Respiration and How to Apply It, Lancet **2**: 149 (July 20) 1935. Bruns, O.: Best Manual Means of Artificial Respiration; Necessity of Supplementing It by Cardiac Massage, München. med. Wchnschr. **83**: 45 (Jan. 10) 1936. Waters, R. M., and Bennett, J. H.: Artificial Respiration: Comparison of Manual Maneuvers, Anesth. & Analg. **15**: 151, 1936. King, B. G.: Comparison of Pulmonary Ventilation in Three Methods of Artificial Respiration, J. Indust. Hyg. & Toxicol. **20**:576 (Nov.) 1938. Crowden, G. P.: Artificial Respiration, Practitioner **140**: 500 (April) 1938. Mijnlieff, C. J., and Waterman, L.: Respiration artificielle et circulation artificielle du sang, J. de physiol. et de path. gen. **36**: 1059 (Dec.) 1938. Karpovich, P. V.: The Best Method of Artificial Respiration, Research Quart. **12**: 50, 1941. Hooker, D. R.; Kouwenhoven, W. B., and York, J. A.: Volume of Air Moved by Artificial Respiration in Anaesthetized Men, Am J. Physiol. **137**: 649, (Nov.) 1942. Gibbons, G. H.: Artificial Respiration at Sea, Brit. M. J. **2**: 751 (Dec. 26) 1942. Cordier, G. G.: Method of Artificial Respiration, Brit. M. J. **2**: 381 (Sept. 25) 1943. MacIntosh, R. R.: Artificial Respiration, correspondence, Brit. M. J. **2**: 493 (Oct. 16) 1943. Pask, E. A.: Med. Research Council Report, Royal Naval Personnel Research Committee, London, 1946. Asmussen, E., and Nielsen, M.: Efficacy of Artificial Respiration, J. Appl. Physiol. **3**: 95 (Aug.) 1950. Whittenberger, J. L., and Sarnoff, S. J.: Physiologic Principles in Treatment of Respiratory Failure, M. Clin. North America **34**: 1335 (Sept.) 1950. Jellinek, S.: Artificial Respiration, Scientific American **185**: 18 (July) 1951.

2. Comroe, J. H., Jr., and Dripps, R. D.: Artificial Respiration, J. A. M. A. **130**: 381 (Feb. 16) 1946.

3. Gordon, A. S.; Fainer, D. C., and Ivy, A. C.: Artificial Respiration: New Method and a Comparative Study of Different Methods in Adults, J. A. M. A. **144**: 1455 (Dec. 23) 1950.

4. Gordon, A. S.; Raymon, F.; Sadove, M. S., and Ivy, A. C.: Manual Artificial Respiration: Comparison of Effectiveness of Various Methods on Apneic Normal Adults, J. A. M. A **144**: 1447 (Dec. 23) 1950.

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were the Departments of Clinical Science and Surgery (Anaesthesia), University of Illinois College of Medicine; Departments of Physiology, Pharmacology and Anaesthesiology, University of Pennsylvania Graduate School of Medicine; Department of Physiology, Harvard School of Public Health; and Department of Physiology, Springfield College, Mass.

The problem of manual artificial respiration has two distinct spheres of interest—the physiologic and the practical. The physiologic areas of concern include (1) the ventilatory efficiency of various manual maneuvers and their modifications, (2) the effect of the manual techniques on circulatory phenomena and gas exchange, and (3) the optimal timing of the component phases of each cycle. Practical considerations are (1) the energy expenditure of the operator and (2) pedagogical and performance factors (including the ease of teaching and the difficulty and accuracy of performance). In the integrated studies by these four groups of investigators, all of these aspects have been given attention.

MANUAL METHODS STUDIED

In the strict sense of the word, manual artificial respiration refers to methods that can be executed by a single operator without the assistance of additional personnel, material, or equipment. For example, the Eve rocking method,[5] which accomplishes ventilation of the lungs by activation of the inert diaphragm, is mechanical, since it requires a commercial or an improvised stretcher and fulcrum for its application. The method becomes manual only when a baby or child can be rocked in the arms of the rescuer. In this series, all the tests were accomplished on adults, although all these manual methods are applicable to children.

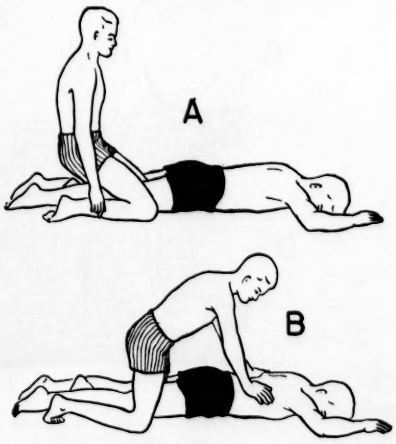

Fig. 1.—Schafer prone pressure method of manual artificial respiration. *A*, inspiration. *B*, expiration.

Mouth-to-mouth or mouth-to-nose breathing may be considered manual, since it requires no apparatus other than the operator's normally functioning respiratory system. However, because of the difficulties involved in studying and teaching the method, it has not been included in these tests. The esthetic aspects have frequently restricted its use to babies and children. However, it must not be lost sight of as an effective technique to be relied on when other methods are inapplicable.

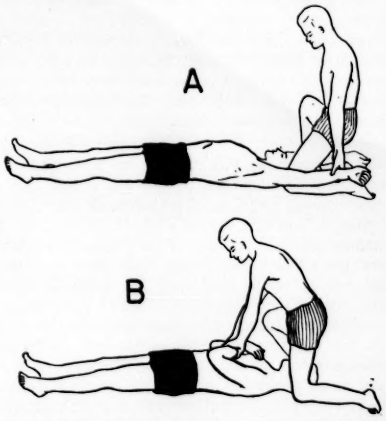

Fig. 2.—Silvester method (arm lift-chest pressure) of manual artificial respiration. *A*, inspiration. *B*, expiration.

The manual methods included in these investigations can be conveniently divided into two groups: (*a*) methods which are "push" only, giving active expiration with inspiration being passive, and those that are "pull" only, producing active inspiration with expiration being passive, and (*b*) methods of a "push-pull" nature, in which both inspiration and expiration become active. Schafer prone pressure is a push type, and the hip-lift is an example of the pull type. Push-pull methods have been shown in previous studies to be two to three times as effective, with respect to pulmonary ventilation, as either the push or the pull type alone. Included in the push-pull group are arm lift-chest pressure, hip lift-back pressure, hip roll-back pressure, and arm lift-back pressure. (For clarity, it may be convenient to refer to these methods as chest pressure-arm lift, back pressure-hip lift, back pressure-hip roll, and back pressure-arm lift, since in the opinion of many concerned parties the method should be initiated with the expiratory phase.) These methods are pictured in Figures 1 through 6.

Prone Pressure (Schafer).—The widespread use of this method [6] has been dependent primarily on its ease of teaching and application. It has been responsible for a large number of successful resuscitation attempts. The operator is taught to kneel and straddle one or both legs

5. Eve, F. C.: Activation of Inert Diaphragm by Gravity Method, Lancet **2**: 995 (Nov. 5) 1932. Killick, E. M., and Eve, F. C.: Physiological Investigation of Rocking Method of Artificial Respiration, Lancet **2**: 740 (Sept. 30) 1933. Eve, F. C.: Artificial Respiration Explained, Baltimore, Williams and Wilkins Co., 1946.

6. Schafer, E. A.: Artificial Respiration in Its Physiologic Aspect, J. A. M. A. **51**: 801 (Sept. 5) 1908. Schafer, E. A.: Artificial Respiration in Man, in Harvey Lectures, 1907-08, Philadelphia, J. B. Lippincott Co., 1909, p. 223. Artificial Respiration, in American Red Cross First Aid Textbook, American National Red Cross, Philadelphia, The Blakiston Co., 1940, p. 108.

of the prone subject, who is placed with the face turned to one side and resting on the back of one hand. The other hand is extended above his head. The operator then places his hands over the floating ribs, with the fingers together and directed laterally. He exerts steady pressure downward and toward the subject's head for approximately two seconds, followed by a release and pause for three seconds. This pressure moves the viscera against the diaphragm and compresses the lower part of the back, resulting in active expiration. Inspiration is passive with release of pressure. The cycling rate is maintained at 12 to 15 times per minute.

Arm Lift-Chest Pressure (*Silvester*).—Proposed almost a century ago, this method [7] has more successfully weathered the adversities of time and testing than any other manual technique. The victim is placed in the supine position with the arms folded on the chest. The operator kneels at the head of the victim. He grasps the arms just above the wrists and draws them first upward and then above the head until they touch the ground. Stretching of the pectoral muscles and humerothoracic attachments produces active inspiration with this maneuver. The operator then replaces the arms on the chest and exerts pressure almost vertically downward to produce active expiration. Each complete cycle is carried out 12 times per minute. Great care must be exercised to prevent the tongue from occluding the oropharynx and preventing ventilation.

Arm Lift-Back Pressure (*Nielsen*).—The Danish Nielsen method [8] has been used successfully during the past 20 years in the Scandinavian countries. The victim is placed in the prone position with the arms folded and the hands placed on top of each other. The face is then placed on the hands. The operator kneels on either knee at the victim's head and places his hands under the arms just above the elbows. He lifts them upward at the same time that he rocks backward, drawing the arms toward himself until he meets firm resistance. They are then replaced on the floor, and the operator moves his hands to the midback (just below the scapulas) and rocks forward, exerting pressure almost vertically downward to cause active expiration (Fig. 6). The expiratory phase may be used to start the method, if desired. The complete maneuver is repeated 12 times per minute. When the arms are drawn upward, active inspiration results from several mechanisms: (*a*) The weight of the body is lifted from the chest so that the thorax can expand. (*b*) The pectoral musculature is stretched, tending to increase the intercostal spaces and enlarge the thorax. (*c*) When the shoulders are raised, the spine is placed in slight hyperextension, which further tends to increase intercostal spaces. With the exertion of pressure on the midback, active expiration results.

Hip Lift.—This method [9] of producing active inspiration by rhythmical lifting of the hips was reproposed and promoted by Emerson in 1948, although it had been

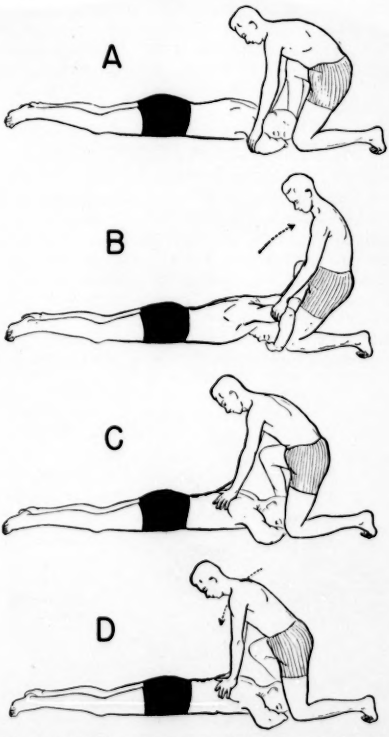

Fig. 3.—Arm lift-back pressure method of manual artificial respiration (after Holger Nielsen). *A*, placing hands for arm lift. *B*, arm lift. *C*, placing hands for back pressure. *D*, back pressure.

previously investigated by Thompson.[10] The victim is placed in the prone position as for the Schafer method. The operator kneels on one knee at the level of the hip, straddling the victim and placing the other foot near the opposite hip. He places his hands under the hips (at the anterior superior iliac spines) and raises the pelvis vertically upward 4 to 6 inches. The hips are then replaced on the ground, and the cycle is repeated. In these tests the hip lift was performed at 12 times per minute. Lifting of the hips produces active inspiration as a result of several mechanisms: (*a*) When the hips are

7. Silvester, H. R.: A New Method of Resuscitating Still-Born Children and of Restoring Persons Apparently Dead or Drowned, Brit. M. J. **2**: 576 (July 17) 1858.

8. Nielsen, H.: Method of Resuscitation, Ugesk. f. laeger **94**: 1201 (Dec. 15) 1932. Lindhard, J.: Artificial Respiration According to Nielsen Method, Ugesk. f. laeger **96**: 67 (Jan. 18) 1934. Gentles, H. W.: A New Method of Artificial Respiration, Nat. Safety News **32**: 34 (Aug.) 1935. MacLachlan, W.: The Holger Nielsen Method of Resuscitation, Nat. Safety News **32**: 52 (Sept.) 1935. Drinker, C. K., and Shaw, L. A.: Modification of Nielsen Method of Artificial Respiration, J. Indust Hyg. & Toxicol. **17**: 243 (Nov.) 1935. Sillevaerts, C.: Principal Procedures in Artificial Respiration, Bruxelles-méd. **15**: 131, 1934. Manual of Artificial Respiration, Danish Red Cross, Holger Nielsen Committee, Hellerup, Otto Teller, 1947. Hederer, C.: Sur une nouvelle manoeuvre de respiration artificielle combinée avec la méthode de Schaefer pour en corriger les défauts et en augmenter la valeur physiologique, Bull Acad. de méd, **132**: 632 (May 14) 1935. Hederer, C.: Technique de la méthode de Schaefer avec manoeuvre inspiratoire de Hederer, Bull. Acad. de méd. **114**: 178 (July 30) 1935. Hederer, C.: Sur une nouvelle manoeuvre de respiration artificielle combinée avec la méthode de Schaefer pour en corriger les défauts et en augmenter la valeur physiologique, Arch. de méd. et pharm. nav. **125**: 371, 1935.

9. Emerson, J. H.: A Manual Method of Artificial Respiration by Lifting the Hips, Cambridge, Mass., Emerson, 1948 and 1949.

10. Thompson, T. C.: Method of Artificial Respiration Especially Useful for Paralyzed Patients, J. A. M. A. **104**: 307 (Jan. 26) 1935.

elevated, the abdominal contents sag downward toward the floor; this results in an intra-abdominal negativity that tends to draw the diaphragm downward. (*b*) Because of the ligamentous attachments between the viscera and diaphragm, the downward movement of the abdominal organs is followed by a similar action of the diaphragm. (*c*) Elevating the hips hyperextends the spine

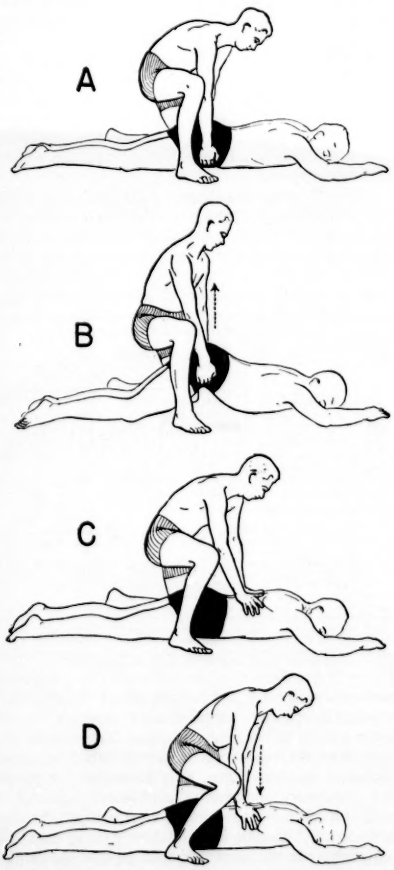

Fig. 4.—Hip lift-back pressure method of manual artificial respiration. *A*, placing hands for hip lift. *B*, hip lift. *C*, placing hands for back pressure. *D*, back pressure.

and increases the intercostal spaces of the lower ribs. Whittenberger, Affeldt, and Mead [11] have noted the increased intra-abdominal and intra-thoracic negativity by placing recording balloons in the stomach and esophagus. Gordon and associates confirmed these movements of the diaphragm fluoroscopically.[4]

Hip Lift-Back Pressure.—The hip lift-back pressure method [12] combines alternate lifting of the hips, as described above, with pressure on the midback (just below the scapulas) with the fingers spread and the thumbs about an inch from the spine (Fig. 6). As the operator lifts the hips he rocks backward, and as he exerts back pressure he rocks forward. In each phase he keeps the arms straight, so that the work of lifting and pressing is distributed over the shoulders and back, rather than being imposed primarily on the arms. Active inspiration results from lifting the hips and active expiration from pressure on the midback.

Hip Roll-Back Pressure.—This is a modification [12] of the hip lift-back pressure method in which a roll is substituted for the lift in order to increase the ease of performance. The operator kneels astride the prone subject as described for the hip lift method; instead of lifting both hips, he uses the knee on which he is kneeling as a fulcrum on which to roll the victim. The operator keeps

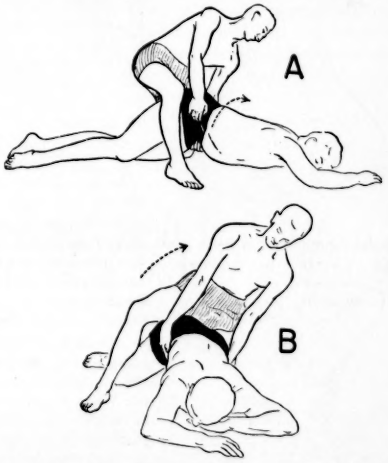

Fig. 5.—Hip roll-back pressure method of manual artificial respiration. *A*, side view of hip roll. *B*, front view of hip roll.

his arms straight and rolls himself in the same direction in which he rolls the victim. Great care must be exercised to insure that the victim is rolled up onto the operator's knee or thigh so that both hips are raised from the ground.

PULMONARY VENTILATION

The classical method of determining tidal ventilation is by the use of spirometric measurements. Although the distribution of ventilation in the lung and the effects of the methods on circulation are important considerations, the tidal volume still retains its value and is one of the simplest tests to make in comparative studies. In investigations of this nature, a number of methods must be applied to each subject since relative values between the methods are more important than absolute values.

11. Whittenberger, J. L.; Affeldt, J., and Mead, J.: Dynamic Pulmonary Pressure Volume Relationship During Manual Artificial Respiration, to be published.
12. Gordon, Fainer, and Ivy.[3] Gordon, Raymon, Sadove, and Ivy.[4]

In the studies by the University of Illinois group, the previous series on curarized-anesthetized normal adult males [4] was enlarged to include 26 subjects. Each subject was rendered totally apneic by the intravenous administration of thiopental sodium and curare agents.[13] In this state the various methods were all applied by the same operator in order to obviate any variations that might result from differences in the manner of application. The methods were rotated so that each one was performed a similar number of times in each position in the sequence. Table 1 reveals that the push-pull methods were between two and three times as effective as the Schafer (push only) or hip lift (pull only) methods, on this type of subject. The tidal volumes with the push-pull methods may appear to be excessive, but it must be remembered that these subjects were all normal healthy young men in a completely flaccid state whose ventilation was of an enforced nature, owing to the active manipulations of the operator.

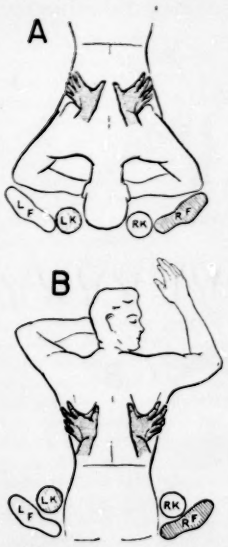

Fig. 6.—*A*, placement of hands and feet for arm lift-back pressure method. *B*, placement of hands and feet for hip lift-back pressure method. LK, left knee; RK, right knee; LF, left foot; RF, right foot.

Certain variations were introduced in order to determine the optimal technique for application of the methods as well as the contributions of the various components.[14] Back pressure was found to be 1½ times as effective as prone pressure for performing the Schafer method. When a spring-off or quick release was practiced at the end of the back pressure, the value was almost double that of prone pressure. However, it was found that the excess ventilation accomplished by the spring-off was attributable primarily to a small extra push delivered by the operator during the quick release. Back pressure, from either the hip lift or the arm lift position, was found to give significantly greater ventilation than scapular pressure. In the arm lift-back pressure method, lifting at the axillas and lifting near the elbows gave approximately the same values. However, when the arms were drawn upward until the chest was raised from the floor, greater ventilation resulted than with an arm-lift only until firm resistance was met. The arm lift-back pressure, hip lift-back pressure, and hip roll-back pressure methods were also performed on a wheeled litter. This reduced the ventilatory values between 100 and 200 cc. for all methods.

Each of the push-pull methods has four phases: (1) lift or roll—active inspiration; (2) release—passive expiration; (3) press—active expiration; and (4) release—passive inspiration. When the various methods were repeated with a pause between each of the four phases, it was determined that active inspiration and active expiration were about equal in the hip lift-back pressure method, whereas active expiration exceeded active inspiration in the arm lift-back pressure and hip roll-back pressure methods.

Figure 7 reveals the characteristic spirometer tracings obtained with each of the methods as well as their mean values in this series and their relationship to normal values. It is interesting to note that, when the Schafer method is performed at the standard rate of 12 times per minute, the passive end-inspiratory lung volume level never returns to the original resting lung volume level and all of the ventilation is accomplished within the expiratory reserve volume. This is also true for the passive inspiratory and passive expiratory phases of the push-pull methods. However, in these methods the phase immediately following each of these passive ones is an active phase in the same direction, so that the artificial breathing is accomplished with both the inspiratory reserve volume and the expiratory reserve volume.

Table 1.—*Mean Tidal Volumes Resulting from Various Manual Methods of Artificial Respiration in Comparative Studies by Four Different Research Groups*

Method	University of Illinois (1)	University of Pennsylvania (2A)	University of Pennsylvania (2B)	Harvard University (3)	Springfield College (4A)	Springfield College (4B)
Prone pressure (Schafer)	485	155	...	365	290	466
Hip lift	635	...	...	332	753	871
Arm lift-chest pressure (Silvester)	1,009	285	...	...	795	1,087
Arm lift-back pressure (Nielsen)	1,056	245	474	577	748	1,060
Hip roll-back pressure	907	350	...	...	858	1,140
Hip lift-back pressure	1,140	405	864	680	...	.....

(1) Twenty-six normal healthy men (ages 21 to 34) anesthetized-curarized to total apnea; 15 subjects only with the Silvester method and 10 cases only with the hip lift method.
(2A) Four subjects, three male and one female (ages 35, 66, 51, and 81), who had become apneic because of intracranial pathology.
(2B) Eight subjects, all female (ages 31 to 39), with drug and anesthesia-induced apnea during immediate preoperative period.
(3) Six subjects, two male and four female (ages 20 to 83), with apnea resulting from intracranial pathology.
(4A) Eleven normal conscious females (ages 12 to 23) with artificial respiration superimposed synchronously on normal respiration.
(4B) Fifteen normal conscious males (ages 14 to 24) with artificial respiration superimposed synchronously on normal respiration.

In the comparative studies at the University of Pennsylvania [15] were performed on two types of apneic subjects: four hospital patients who had become apneic as a result of intracranial pathology (Group A) and eight patients, all female, who required general anesthesia for surgical operations and were rendered apneic by the use of drugs and anesthetic agents during the immediate preoperative period (Group B). Group A had all of the methods applied; Group B was used to evaluate variations in the performance of the arm lift-back pressure method. In

13. Gordon, Raymon, Sadove, and Ivy,[4] Sadove, M. S.; Gordon, A. S.; Nelson, J. T., and Ivy, A. C.: Barbiturate-Curare Induced Apnea for Artificial Respiration Studies in Normal Adults, J. Appl. Physiol. 4: 403-495 (Dec.) 1951.

14. Gordon, A. S.; Affeldt, J. E.; Sadove, M. S.; Raymon, F.; Whittenberger, J. L., and Ivy, A. C.: Air-flow Patterns and Pulmonary Ventilation During Manual Artificial Respiration on Apneic Normal Adults, J. Appl. Physiol., to be published.

15. Nims, R. G.; Conner, E. H.; Botelho, S. Y., and Comroe, J. H. Jr.: A Comparison of Methods for Performing Manual Artificial Respiration on Apneic Patients, J. Appl. Physiol. 4: 403-495 (Dec.) 1951.

these studies all of the push-pull methods were evaluated with the victim on a litter or operating table and the operator standing. In this respect they deviated from the standard application as previously detailed.

The Schafer method produced the lowest tidal volumes in this series and the hip lift-back pressure and hip roll-back pressure methods the highest. In three of the four Group A patients the Schafer technique resulted in tidal volumes less than the probable value of the respiratory dead space. This occurred despite the use of back pressure. However, all the studies in this group gave much smaller values than those noted on healthy young men in the University of Illinois tests. It appears from these data that, in the presence of pathology, one need not fear that hyperventilation will occur from the application of the more efficient methods for manual artificial respiration.

In the Group B subjects, who were smaller but more nearly normal, the hip lift-back pressure method gave tidal values considerably greater than those produced in Group A, and more closely approximating those obtained in the University of Illinois series. It is difficult to explain why the arm lift-back pressure method uniformly gave

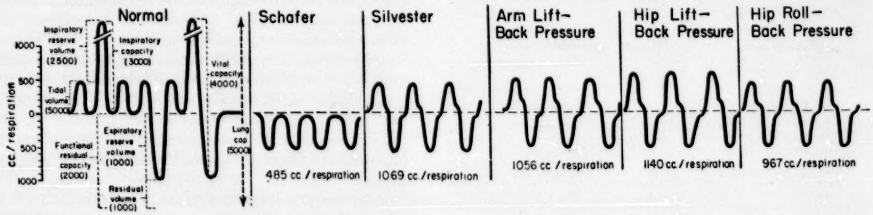

Fig. 7.—Comparison of tidal volumes with various manual methods of artificial respiration. Values noted are those obtained in series on curarized-anesthetized normal men in the University of Illinois studies.

values that were significantly lower than the hip lift-back pressure method. Possible explanations may be (*a*) the subjects as a group were smaller and had lower vital capacities; (*b*) all of the subjects in Group B were females, in whom the method may be less efficient; and (*c*) the method deviated from the standard routine in that the operator was standing and the patient was on a litter or operating table; this would not alter the arm-lift component appreciably but might result in the application of less pressure to the back.

In this study the two active components of the arm lift-back pressure method contributed about equally when the method was performed on the litter. Conversely, in the Illinois survey it was found that the expiratory phase exceeded the inspiratory when the methods were performed on the floor. This probably accounts for a significant part of the discrepancies between these two sets of data. Comroe's studies further indicated no differences worthy of mention between lifting above the elbows, at the midarms, or at the axillas. He corroborated the finding that a lift that raised the chest from the floor produced significantly greater ventilation than one carried upward only until firm resistance was met. In this series of tests it was also determined that back pressure over the scapulas was almost as effective as pressure over the ribs just below the scapulas. It was found that it was less awkward to apply scapular pressure to a subject on a litter or operating table here, although Gordon's group found pressure at the lower tips of the scapulas best when the method was applied on the floor.

The Harvard University group [16] utilized a photographic air flow meter to record pulmonary ventilation on six patients, over a wide age range, who had become apneic as a result of intracranial pathology. The methods were applied with the patients either on a wheeled litter or on a flat board placed under a bed sheet. It was found that the Schafer method and the hip lift method gave approximately equal mean values, which were higher than Comroe's values for similar type patients. The hip lift-back pressure method gave almost double this volume, and the arm lift-back pressure method gave slightly less than twice as much. A simple calculation shows that the advantage in terms of alveolar ventilation is even greater than the tidal volume figure would suggest. When the manipulations are done separately, approximately half of each tidal volume is wasted in flushing the anatomic dead space (assuming a dead space value of 180 cc.). In the combination methods (push-pull) a much smaller fraction was wasted; with the use of the average values in this series of tests, the effective tidal alveolar ventilations were approximately 500 cc. for the hip lift-back pressure method and 400 cc. for the arm lift-back pressure method.

The Springfield College studies [17] were performed on conscious normal males and females. In the method utilized here, the operator superimposed the artificial inspiratory and expiratory phases simultaneously with the normal inspiration and expiration of the subjects. That is, after several minutes of normal breathing, the operator watched the inverted cylinder of the spirometer and supplemented the normal inspiratory movement by simultaneously performing the arm lift or the hip roll. The normal expiratory movement was supplemented by superimposed back pressure. The difference between these readings and the normals indicated the ventilation induced by the artificial respiration manipulations. Tests of the various methods on 11 normal conscious females and 15 males revealed that all the push-pull methods were between two and three times as effective as the

16. Whittenberger, J. L.; Affeldt, J. E.; Goodale, W. T., and Sarnoff, S. J.: The Mechanics of Breathing in Relation to Manual Methods of Artificial Respiration, J. Appl. Physiol. 4: 403-495 (Dec.) 1951.
17. Karpovich, P. V.; Hale, C. J., and Bailey, T. L.: A Study in Manual Artificial Respiration, J. Appl. Physiol. 4: 403-495 (Dec.) 1951.

Schafer prone pressure method in both sexes. Hip lift-back pressure was not performed, but, if calculated arbitrarily by adding the hip lift and the Schafer methods, it would have exceeded all others. The differences among the other four methods were not statistically significant, although the hip roll-back pressure method gave the greatest mean ventilation in both series. It was noted that pulmonary ventilation increased with an increase in the subject's body weight.

CIRCULATORY PHENOMENA AND GAS EXCHANGE

Whittenberger and Affeldt [18] have shown in dogs that with reduction in lung volume below normal there is relatively poor distribution of ventilation of the lung, resulting in a high degree of shunt of blood through underventilated areas. This would necessarily lead to faulty gas exchange and reduced arterial oxygen saturation. Distribution of ventilation is not improved by distending the lung above the normal range. It appears then that the most desirable range in which to ventilate a paralyzed chest is in the direction of increasing lung volume rather than diminishing lung volume—the latter being the case in the Schafer method.

TABLE 2.—*Mean Arterial Oxygen Saturation During Fifteen Minutes of Uninterrupted Manual Artificial Respiration on Fifteen Normal Healthy Adult Males Rendered Totally Apneic with Barbiturate-Curare Mixtures**

Method †	Mean Arterial Oxygen Saturation, %
Prone pressure (Schafer) ‡	67
Arm lift-back pressure (Nielsen)	93
Hip roll-back pressure	94
Hip lift-back pressure	89

* Arterial blood samples drawn during 7th and 15th minutes.
† Total of 15 cases used in which comparative data of several methods are available. Number of cases in which each method was used: Schafer, 9; arm lift-back pressure, 11; hip roll-back pressure, 4; and hip lift-back pressure, 9.
‡ In three out of nine cases in which the Schafer method was applied, it was so ineffectual that it was necessary to stop the method after several minutes in order to assure the patient's safety. In every case in which the Schafer method had to be discontinued, the push-pull method immediately preceding it and the one immediately following it were completely successful for the full 15-minute experimental period.

In addition, one may infer that those methods which produce active inspiration by increasing the intrathoracic negativity would have a beneficial effect on the circulatory system—especially a failing circulatory system—since they would probably promote cardiac refill. It might further be supposed that, since the pressure phase of the Schafer method occupies 40% of the total cycle (2 out of 5 seconds), it would tend to impede venous return as compared with the push-pull methods, in which the pressure phase occupies only 25% of the cycle.

Gordon [19] and associates [20] attempted to evaluate these considerations in studies on 15 normal healthy men curarized-anesthetized to total apnea. Three of the four prone methods were applied for 15 minutes each on all the subjects, always by the same operator. Expired air was collected in a Tissot spirometer from the 7th to the 10th minute and from the 12th to the 15th minute. During these collection periods, arterial blood was drawn from the femoral artery and mixed venous blood from a catheter previously inserted into the pulmonary artery.

The calculated cardiac outputs with all the methods covered a wide range, with the mean values elevated slightly above normal. The range and mean were approximately the same for all methods. This was apparently due to the fact that in these studies the cardiovascular systems were normal and that the subjects were also under the influence of heavy medication. Table 2 reveals, however, that the mean arterial oxygen saturation was depressed from the normal in all methods. The arm lift-back pressure, hip lift-back pressure, and hip roll-back pressure methods all maintained the arterial oxygen saturation at near normal levels, and there was no significant difference among these methods. However, the mean arterial oxygen saturation in nine cases in which the Schafer method was applied was only 67%. In three of the nine cases in which Schafer back pressure was used, the method had to be stopped after several minutes because of the profound cyanosis of the subjects. In one of these subjects, from whom a blood specimen was drawn before the method was discontinued, the oxygen saturation was only 42%. An even more crucial point here is that, in every case in which Schafer back pressure was found to be inadequate and was stopped, the push-pull method that immediately preceded it and the one that immediately followed it were able adequately to maintain the victim for the full 15-minute experimental period.

Pulmonary ventilation with the Schafer method was at a normal level in these tests, averaging 6 and 7 liters per minute. Assuming that no alteration of the alveolar barrier existed during the application of the Schafer method, and since the circulatory status of these patients had been shown not to be depressed, uneven alveolar ventilation appears to be the most probable cause of the depressed arterial oxygen saturation. This is attributable to the patient's breathing entirely within the expiratory reserve volume with the Schafer method, and is in complete agreement with Whittenberger's earlier work on dogs.

OPTIMAL TIMING OF THE CYCLES

In a coordinated study between the Harvard and Illinois groups,[14] 10 normal healthy men, curarized-anesthetized to total apnea, were used to measure the air flow patterns on the photographically recording pneumotachograph.[21] Each phase of the respiratory cycle with the arm lift-back pressure, hip lift-back pressure, and hip roll-back pressure methods was held until air movement ceased as determined on the pneumotachograph. Since at the end of each phase there is a comparatively slow movement of air with a very small increment in volume, their duration may be calculated on the basis of measurement of the termination of each phase to a more or less arbitrary point that includes at least 95% of the volume. The active phases (hip lift, hip roll, arm lift, and back pressure) for all methods in this study were shown to

18. Whittenberger, J. L., and Affeldt, J. E.: Aspects of Pulmonary Physiology Which Determine the Effectiveness of Artificial Respiration Procedures, Conference on Artificial Respiration, Sept., 1950, Medical Division Special Report No. 5, Chemical Corps, Army Chemical Center, Maryland, April, 1951, pp. 39-49.

19. Gordon, A. S.; Prec, O.; Sadove, M. S.; Wedell, H.; Raymon, F.; Nelson, J. T., and Ivy, A. C.: Circulatory Studies During Artificial Respiration on Apneic Normal Adults, J. Appl. Physiol. 4: 403-495 (Dec.) 1951.

20. Dr. Oldrich Prec, formerly cardiophysiologist, and Dr. Harold Wedell, formerly research fellow, Hektoen Institute for Medical Research, Cook County Hospital, participated in this series of studies.

21. Silverman, L., and Whittenberger, J. L.: Methods in Medical Research, Chicago, Yearbook Publishers, 1950, vol. 2, p. 104.

require approximately 1½ seconds for cessation of air flow. These active phases produce the end-inspiratory and end-expiratory lung volumes and thus account for the tidal volumes obtained. With release, air begins to flow in the opposite direction during the passive phases; but, since the next active phase is in the same direction as this passive flow, it will accelerate the return of air. The important consideration in timing, then, is that the next step, which is an active one, should be held long enough for air flow to stop, but it does not matter in the passive phases.

From a purely practical point of view, the smooth performance of the methods dictates approximately the same time requirement for completion of the release maneuvers as for the hip lift, hip roll, arm lift, or back pressure manipulations. Accordingly, a 5 to 6 second cycle, executed 10 to 12 times per minute, with each of the four phases occupying approximately 1½ seconds, appears physiologically and practically most ideal for the push-pull methods.

Comroe [15] feels that these statements may be applicable to normal subjects with drug-induced apnea, but do not necessarily apply to victims who actually require artificial respiration. A patient in need of artificial respiration has usually been apneic for a few minutes, has high arterial carbon dioxide and low oxygen levels and is in need of hyperventilation, at least for a short time. Furthermore, if an error in ventilation is made, it seems advisable to him to err in the direction of hyperventilation. Since the tidal volumes in his series of cases in which there was actual pathology were much lower than the curarized normal subjects in the Illinois study, a rate even in excess of 10 to 12 times per minute would hardly produce hyperventilation.

By the use of a rapid kymograph which allowed the recording of accurate measurements of the times required for each phase, he also noted that the last 3% or 4% of the volume required an inordinately long time and that a more rapid cycling should eliminate periods of low flow or no flow and so increase alveolar ventilation. Accordingly, he believes that in actual apneic patients a frequency of 15 or more per minute should be used.

ENERGY EXPENDITURE OF OPERATORS

The oxygen consumption per unit of time is probably the most acceptable method for determining general energy expenditure for a given task. It was used by Karpovich and Hale at Springfield College.[17] In their testing, 10 males performed all the methods for three minutes on each of four conscious male subjects covering a wide range of body weights. Ten female operators were studied while similarly performing on each of four conscious female victims. After each method the recovery period varied from three to nine minutes, until the metabolic rate had returned to normal.

Their conclusions were the same for both male and female victims with few exceptions. During this three-minute performance period, Schafer prone pressure was found to require the least oxygen consumption; hip roll-back pressure and hip lift (alone) required the most. The Silvester and arm lift-back pressure methods occupied an intermediary position, although less oxygen was consumed in performance of the Silvester method.

Since conscious subjects may actively assist or resist manual resuscitative efforts, especially when these are extended over a prolonged period of time and become uncomfortable, the University of Illinois group [22] investigated fatigue while working on anesthetized subjects. In these tests, three subjects were anesthetized with ultra-short-acting barbiturates and kept asleep during the procedure by the use of a continuous intravenous infusion of the drugs. Curare was not used in this series, since measurements were not made on the subjects; only the expired air of the operators was collected. Each of nine operators (seven male and two female) of average size performed all the manual methods for an uninterrupted 10-minute period on one of the anesthetized subjects. The subjects were all of the same age, size, and weight, so that results among the various operators were comparable. Between each 10-minute performance period, and before beginning the next method, each operator rested 30 minutes. The methods were rotated in the order of their performance. Expired air was collected from the eighth through the tenth minute, so that the oxygen consumption during the last three minutes of the 10-minute performance period could be measured. A 10-minute period was arbitrarily selected, since this was considered to be a "reasonable" period for manual artificial respiration.

TABLE 3.—*Energy Expenditure of Operators as Measured by Oxygen Consumption During Uninterrupted Performance of Various Manual Methods of Artificial Respiration by Two Different Research Groups*

	Oxygen Consumption (Cc./Min.)		
	University of Illinois *	Springfield College †	
	Expired Air Collected During 8th to 10th Min.	Expired Air Collected During 1st 3 Min.	
Method	Mean of 7 Male and 2 Female Operators Working on 3 Anesthetized Subjects	Mean of 10 Male Operators Working on 4 Conscious Male Subjects	Mean of 10 Female Operators Working on 4 Conscious Female Subjects
Prone pressure (Schafer).....	873	547	445
Arm lift-chest pressure (Silvester)	1,162	706	480
Arm lift-back pressure (Nielsen)	1,165	948	657
Hip roll-back pressure.....	1,377	1,047	746
Hip lift	.....	1,050	706
Hip lift-back pressure.....	1,625	.....	...

* Each operator performed all manual methods on one of the three anesthetized-subjects uninterruptedly for 10 minutes per method; 30 minutes rest period was observed between methods. All subjects were male, ages 24 to 30; height 68 to 70 in.; weight 148 to 158 lb. Male operators ranged in age from 20 to 34 years and in weight from 165 to 191 lb.; two females were 25 and 29 years and weighed 126 and 128 lb. Results from the individual operators paralleled group results. Oxygen consumption by two females was lower throughout, but relative values of the methods were the same as for the over-all group.

† Each method applied by 10 male operators on each of four conscious male victims and by 10 female operators on each of four conscious female victims. Methods applied for three minutes, allowing recovery period of from three to nine minutes, until the metabolism returned to normal. Male operators: ages 15 to 25; weight 110 to 230 lb.; female operators: ages 13 to 28 years; weight 105 to 168 lb.; male victims: 100 to 230 lb. and 65 to 73 in. tall; female victims: 90 to 165 lb. and 60 to 67 in. tall.

The data in Table 3 reveal that the energy cost of the methods fell roughly into three groups: Schafer was the least taxing, hip lift-back pressure required the greatest expenditure, and Silvester and arm lift-back pressure occupied an intermediary position. The hip roll-back pressure method occupied a position between the arm

22. Gordon, A. S.; Raymon, F.; Sadove, M. S.; Wedell, H., and Ivy, A. C.: Energy Expenditure of Operators During Manual Artificial Respiration, J. Appl. Physiol. 4: 403-495 (Dec.) 1951.

lift-back pressure and the hip lift-back pressure methods. This trend was maintained by the individual operators, groups of operators, and the entire group. These results also correspond with the subjective feelings of fatigue of the operators. All the operators felt that the Schafer method was the easiest, and all except two considered the hip lift-back pressure most fatiguing. In all but these two, the arm lift-back pressure and the Silvester methods always occupied intermediary positions in their judgment of fatigue resulting from the 10-minute performances.

PEDAGOGICAL AND PERFORMANCE FACTORS

The practical application of new methods of resuscitation is dependent on factors other than those compiled in physiologic experiments. Assessments of the degree of difficulty in teaching, the accuracy of performance, and the discomforts experienced are essential. The groups at Illinois and at Springfield College investigated these factors.

The study by Karpovich [17] was carried out with 100 boys from Wilbraham Academy and 67 young men from Springfield College. The students were divided into small groups, and each group was given instruction separately in one session. During another session they were required to execute each method for 10 to 15 minutes. The order of performance of the methods was selected at random, with the exception of the hip lift, which was always given last.

The information furnished by these tests indicated that the methods considered easiest to learn were the arm lift-back pressure and arm lift-chest pressure methods. The hip lift was considered the most difficult. Exclusive of the Schafer method, these same two methods were considered least tiring and the hip lift most tiring. Most operators complained of discomfort in the knees in all methods and of discomfort in the back in the hip lift method.

With the cooperation of the National Opinion Research Center, who prepared and analyzed unbiased questionnaires, the University of Illinois [23] conducted tests on 1,000 naval recruits and 200 Waves at the Great Lakes Naval Training Center. Groups of naval personnel were given 10-minute lecture-demonstrations in the performance of the arm lift-back pressure, hip lift-back pressure, and hip roll-back pressure methods. After the lecture-demonstration of each method, selected at random in order to eliminate the factor of the learning of one method influencing the learning of a second method, recruits were called on to perform the method continuously for a 10-minute period. A random selection of operators and victims was utilized so that various sizes and weights would be paired. The victims were never used as operators, since their performance or judgment might have been influenced by having had the methods performed on them. Operators always performed the several methods on the same subjects. Trained monitors observed, corrected, and rated the operators on their performances; the operators rated the methods at the conclusion of each set of tests.

23. Gordon, A. S.; Star, S.; Meier, F.; Hale, C., and Ivy, A. C.: Pedagogical and Performance Factors of Manual Artificial Respiration with Naval Personnel, J. Appl. Physiol. 4: 403-495 (Dec.) 1951.

Observations and ratings of these performances revealed that the arm lift-back pressure, hip lift-back pressure, and hip roll-back pressure methods can be successfully taught to naval recruits in relatively brief training sessions as used in these tests. Of these methods, the arm lift-back pressure method surpassed all variations of the hip methods in accuracy of performance, ease of learning —as measured by the need for an amount of correction— and physical ease of performance. Among the hip methods, the hip lift-back pressure, especially when an adjunct is used (such as a towel or belt under the hips to assist in lifting) in its performance, is most easily learned and accurately performed. It is, however, physically more difficult to do than the hip rolls. The hip roll-back pressure is not as accurately performed, especially in getting both hips clear of the ground, and with continued performance is frequently done clumsily and with difficulty. All operators were able to complete the 10-minute performance period with each of the methods.

CONCLUSIONS

On the basis of all of the component parts of these studies, it may be said unequivocally that of the methods of artificial respiration investigated the Schafer prone pressure method is the least effective for ventilating the lungs. This in no way disputes the evidence that this method has accounted for a large number of successful resuscitations. It means, rather, that, on sound physiologic principles, there are manual methods available that give greater ventilation and would most probably have resulted in an even greater number of successful rescues. The Schafer method is easy to teach and can be performed for extended periods of time. Herein lie the great advantages that have promoted the method to its present position of almost universal teaching in this country.

Since it is apparent that prone pressure should be replaced by one of the more efficient methods, the more immediate problem is selection of the push-pull method that should be substituted for it. The various push-pull methods have all proved their ability to resuscitate persons actually requiring artificial respiration. During the past century, the Silvester method has had innumerable successes attributed to it. The arm lift-back pressure (used as the Holger Nielsen method) has been in practice for almost 20 years in the Scandinavian countries and has attained an excellent record there.

We know of six authenticated cases in which the hip lift-back pressure method has been successfully applied. In each of these cases the Schafer method was originally used and, when it appeared to be ineffectual, the hip lift-back pressure method was tried. These cases were as follows: (*a*) the original case reported by Thompson in 1932, in which the method was used to maintain a poliomyelitis victim for eight hours, until a mechanical resuscitator became available; (*b*) three submersion cases during the past year, all involving children—one in Florida, one in Chicago, and one in the Philippine Islands; (*c*) a barbiturate intoxication patient in Boston who showed poor response with the Schafer method but who was maintained with hip lift-back pressure; and (*d*) a victim in Washington, D. C., who was successfully resuscitated after being struck by lightning.

V 1
195

Of the various candidate push-pull methods, the Silvester method retains its usefulness for particular instances but has one strong disadvantage which limits its general applicability. When the victim is in the supine position, the tongue frequently occludes the oropharynx and effectively limits or prevents ventilation. In the study on warm corpses by Gordon and associates,[3] where the jaw and tongue were allowed to fall freely into their natural position, in 50% of the cases in which the Silvester methods was applied there was no ventilation. By contrast, only 25% of the Schafer and hip lift subjects had no ventilation and all of the arm lift-back pressure and hip lift-back pressure subjects were ventilated. When a second rescuer is available and cognizant of this danger, the airway can be kept clear by drawing out and securing the tongue or elevating the jaw. This method is valuable for cases in which the supine position is advisable (pregnancy or burns or injuries to the anterior surface of the body) or when a victim has been trapped in the supine position.

The hip lift-back pressure method uniformly gives the greatest ventilation in all the studies, and teaching which assures accurate performance is easy. However, it is difficult, except for able-bodied men and women, to continue for long periods of time. In these tests young adults were able to complete 10-minute performance periods with the method. Children or small adults may find it impossible to accomplish the hip-lifting technique. The hip roll-back pressure method requires less energy but is more complicated, and accurate performance requires greater indoctrination. With prolonged usage it is frequently performed clumsily.

The arm lift-back pressure method gives ventilatory volumes that are double those of the Schafer method. It has been shown to be easy to teach and is usually performed accurately after brief indoctrination periods. It can be performed with relative ease by small adults and even children who are old enough to understand the method and its application. The method can be continued for long periods of time without exhaustion, in contrast to the various hip methods. In cases of injury to the arm, or if a small operator becomes unduly fatigued, back pressure alone may be used and gives greater ventilation than standard prone pressure over the floating ribs.

Although the arm lift-back pressure method is most applicable for general usage, medical personnel and other trained persons should be accomplished in the application of other methods, including the hip lift-back pressure and arm lift-chest pressure methods. These provide ready alternatives when particular circumstances preclude the use of the arms or the legs, or when it is essential that the victim be in either the prone or the supine position. When possible, the hip lift-back pressure method should be used, since its ventilatory efficiency, even in cases with pathological processes, is of proved superiority.

A rate of 12 times per minute seems ideal for the application of the push-pull methods. Accurate determinations of air-flow have shown that this timing most adequately utilizes the time allowed for each phase. Furthermore, testing of naval personnel indicated that the methods could be continued at this rate for full 10-minute periods. It was easy for recruits to establish and maintain the rate of 12 times per minute. When errors in rate and rhythm were noted, they were in the direction of slowing the maneuvers (probably owing to fatigue) rather than accelerating them. The Shafer prone pressure method has also been taught at a rate of 12 per minute, and the use of this same rate will probably facilitate the teaching of new methods.

However, the observation of Comroe must be considered, namely, in his patients who had pathological processes actually requiring artificial respiration, lower tidal volumes were obtained than in normal subjects with drug-induced apnea. Because the victim requiring resuscitation has hypercapnia and hypoxia, any error in the amount of ventilation should be in the direction of hyperventilation. Accordingly, for this type of patient a rate of 15 times per minute may be more applicable.

The purpose of artificial respiration is to draw air into the lungs, rather than to force air out. It would seem most advantageous, therefore, to begin the push-pull methods with the active inspiratory phase. However, since resuscitation exigencies are often associated with obstruction of the airway, it may be more practical in the final analysis to begin artificial respiration with the pressure phase. The methods would then become: back pressure-hip lift, back pressure-hip roll, back pressure-arm lift, and chest pressure-arm lift. In actual practice the time lag between starting with active inspiration or active expiration is so small that it should not prove to be of significance.

RECOMMENDATIONS

1. As soon as is compatible with the pedagogical factors involved, the Schafer prone pressure method of manual artificial respiration should be replaced by one of the more efficient push-pull methods.

2. Of the push-pull methods, the arm lift-back pressure method (which, if begun with active expiration, may be more appropriately termed back pressure-arm lift), slightly modified from the original Holger Nielsen method, is preferable for general indoctrination.

3. Other push-pull methods that are acceptable, and are specifically applicable in special circumstances, include the hip lift-back pressure and the Silvester method (arm lift-chest pressure) methods.

Congenital Defects.—It has been emphasized by numerous workers that biological characteristics, including responses to experimental manipulation, are the result of an interaction between the genetic and the past environmental influences which make up the organism's constitution. Some characteristics are determined largely by genetic factors and others by environmental agents, while still others occupy an intermediate position. The fact that no one has been able to produce defects experimentally in 100% of the offspring of treated animals, even when using highly inbred material, shows that the production of such defects is influenced by environmental differences sufficiently subtle that they can occur within the maternal uterus. It is reasonable to suppose that this applies in human material as well. Clinically, therefore, the etiology of any given case of congenital defect (provided there is no obvious Mendelian pattern or environmental agent) must be attributed to a complicated interaction of genetic and environmental factors that can be defined only in statistical terms.—F. Clarke Fraser, M.D., and T. D. Fainstat, M.Sc., Causes of Congenital Defects, *A. M. A. American Journal of Diseases of Children*, November, 1951.

COUNCIL ON PHYSICAL MEDICINE AND REHABILITATION

The Council on Physical Medicine and Rehabilitation and The American National Red Cross have adopted the following statement. The Council and The American National Red Cross will welcome comments.

RALPH E. DE FOREST, M.D., *Secretary*,
Council on Physical Medicine and Rehabilitation.
CARL J. POTTHOFF, M.D.,
The American National Red Cross.

BACK PRESSURE-ARM LIFT METHOD FOR ADMINISTERING ARTIFICIAL RESPIRATION RECOMMENDED

The Council on Physical Medicine and Rehabilitation of the American Medical Association and The American National Red Cross and many other organizations, including the Armed Forces, the Federal Civil Defense Administration, the Public Health Service, the Bureau of Mines, the Boy Scouts and Girl Scouts of America, and the American Telephone and Telegraph Company, have endorsed the back pressure-arm lift method of artificial respiration for use by the general public when dealing with cases of asphyxia. The teaching and use of selected other methods may be indicated for special situations, but it is expected that the back pressure-arm lift method will supplant the prone pressure as the one most generally indicated. This endorsement follows a recommendation released December 3 by The American National Red Cross, National Research Council, Department of Defense, and Public Health Service.

TECHNIQUE OF THE BACK PRESSURE-ARM LIFT METHOD

The subject is placed prone, elbows bent, arms overhead with one hand upon the other. The cheek is placed on the hand, the face turned slightly to one side. The operator kneels on one knee at the head of the subject and puts the foot of the opposite leg near the elbow. He places his hands on the subject's back, in such a way that the thumbs just touch, the heels of the hands being just below a line running between the armpits. He rocks slowly forward, elbows straight, until his arms are approximately vertical, exerting steady pressure upon the chest. Then he commences to rock backward slowly and slides his hands to the subject's arms just above the elbows. He raises the arms until resistance and tension are felt at the subject's shoulders. Then he drops the arms. This completes a full cycle. The cycles are repeated 12 times per minute, the expansion and compression phases being of equal length, the release periods being of minimum duration. A standard technique for administering the method is being prepared by a committee representing many organizations.

EVIDENCE SUPPORTING THE ADOPTION OF THE BACK PRESSURE-ARM LIFT METHOD

During recent years a growing mass of evidence has indicated that several methods of approximately equal merit in meeting physiological needs are superior to the prone pressure method, and that among them the back pressure-arm lift method best meets the requirements for general public use.

A large share of the work definitely comparing methods has been recent. Studies of air exchange induced by artificial respiration have been made (1) on experimental animals, (2) on volunteers holding the breath, (3) on cadavers, (4) on sick or injured persons who have stopped breathing, and (5) on persons who have been given barbiturates with curare, or other anesthetics, to stop breathing completely. Studies of other aspects of respiratory mechanics and physiology, blood and circulation, and tissue changes have been made. Thus an extensive literature has been compiled since the prone pressure method was adopted.

It might be assumed that one method or another has advantage related to the circulation and thus indirectly upon body tissue, particularly nerve tissue such as the central nervous system. Such evidence theoretically might occur because pressure changes in the thorax aid the flow of blood or because the procedures mechanically stimulate the heart. The findings of investigators, however, are that bringing oxygen quickly to the alveoli is of overriding importance in maintaining and improving cardiac action and circulation.

Accordingly, the relative effectiveness of different methods appears to depend primarily upon the differences in the amounts of tidal air they induce. If the victim has been deprived of air only briefly, a fairly small amount of air will revive him unless other factors such as cardiac fibrillation enter. But if his alveoli no longer have oxygen, if his blood oxygen level is low, if his carbon dioxide level is simultaneously very high, if he is on the brink of heart failure and/or irrecoverable brain injury due to oxygen lack, a large air exchange through artificial respiration is urgently needed. The deeper the asphyxia, the greater the need for use of a method of artificial respiration giving a large air exchange.

The evidence indicates that the prone pressure method gives least ventilation when needed most, that is, in the deeply asphyxiated. Comroe [1] writes: "The Schafer method depends to a large extent on the elastic recoil of the lungs and tonicity in the respiratory muscles; since these are absent in the deeply asphyxiated patient, Schafer's method becomes of least value when needed most." Further, Drinker [2] has pointed out that edema and atelectasis of the lungs develop, the degree becoming greater as time goes on. These conditions occur in the electrocuted or carbon monoxide poisoned as well as in the drowned when the blood pressure falls. At such time, the more effectively functioning parts of the lung should be supplied with good oxygen levels and the ventilation should be good enough to keep blood carbon dioxide levels below undesirably high levels. The prone pressure method appears to have still another disadvantage. During recoil of the chest with this method, only a slight negative pressure develops, particularly in the deeply asphyxiated. Accordingly, when the respiratory passageways are partly obstructed by edema, mucus, vomitus, or drowning fluid, the air in-flow will be slower than if a greater negative intrathoracic pressure develops.

Swann [3] has shown that the failing myocardium (heart muscle) recovers quickly when provided with oxygen, if fibrillation is not present. On the basis of his extensive studies he has written, "The desideratum of artificial respiration is a big tidal volume—the biggest possible since this will bring more oxygen more quickly to the myocardium."

Various studies have indicated that with volunteers holding their breath the air exchange when using the prone pressure method significantly exceeds the respiratory dead space. This space is represented by the passageways of the nose, pharynx and larger respiratory tubes, and amounts in the adult to about 150 cc. (about ⅓ pint). Obviously if the exchange is only of that amount or less, the fresh air is not brought directly into the deeper respiratory tract where it is needed. But even with volunteers holding the breath, the air exchange is far greater using the back pressure-arm lift method than the prone pressure. The prone pressure method is a one-phase maneuver on the part of the operator; he actively compresses the chest, but does not actively expand it. Two-phase methods—including a phase where the operator actively expands the chest and one where he compresses it—give much more ventilation.

The fresh cadaver perhaps resembles most closely the deeply asphyxiated victim near death. Many workers such as Bruns [4]

Joint statement issued by the Council on Physical Medicine and Rehabilitation and The American National Red Cross.

1. Comroe, J. H., Jr., and Dripps, R. D.: Artificial Respiration, J. A. M. A. **130**: 381 (Feb. 16) 1946.
2. Drinker, C. K.: Pulmonary Edema and Inflammation, Cambridge, Mass., Harvard University Press, 1945.
3. Swann, H. G.: Studies in Resuscitation, Armed Forces Technical Report No. 6006 (Oct.) 1950.

V 14
1951

and Cordier [5] found that the prone pressure method gave exchanges grossly less than the physiological dead space. Motley [6] obtained figures of 78 cc., 50 cc., 140 cc., and 0 cc. in studies on 4 cadavers, these volumes being attained only when the subjects were in optimum positions; with slight variations in position, the volumes were even less. Gordon [7] obtained far smaller air exchange upon fresh cavaders, using the prone pressure method, than he did using the pack pressure-arm lift, the hip lift-back pressure, and other two-phase methods.

Comroe and Dripps [1] obtained a ventilation of only 71 to 117 cc. on two apneic clinical patients, using the prone pressure.

Whittenberger [8] also found that the prone pressure method did not give nearly as much ventilation on clinical patients at Harvard as did the back pressure-arm lift and the hip lift-back pressure. Comroe's studies on 13 clinical apneic patients gave similar findings.

Gordon and his associates [9] administered barbiturate-curare mixtures to 26 volunteers, rendering them completely apneic. Then various methods of artificial respiration were administered. The prone pressure method gave an air exchange average of 485 cc., the back pressure-arm lift 1,056 cc., the hip lift-back pressure 1,140, and the Silvester 1,069.

Gordon and his associates also measured blood oxygen levels after administering artificial respiration for 15 minutes to these curarized subjects. He found that the oxygen level in the blood fell markedly when the prone pressure method was administered for 15 minutes, but that with two-phase methods, the back pressure-arm lift method being one of those studied, the oxygen levels remained at about 90% saturation. In several cases when the prone pressure was used, cyanosis became so alarming that the method had to be discontinued. On substitution with a two-phase method, there was recovery from the cyanosis. Comroe, Dripps, and Whittenberger had similar experiences with regard to cyanosis in clinically ill, apneic patients. Gordon also found that cardiac output was lower when the prone pressure method was used than with the two-phase methods studied. The studies here mentioned are only a few of those done.

DIFFICULTY OF EXECUTING, AND PRACTICAL EDUCATION FEATURES

It seems evident that anyone can satisfy himself concerning the ease of doing the back pressure-arm lift method and of learning it. The method probably is not quite as easy to do and to teach as the prone pressure, but yet is an easy one. A child or a frail person can administer the method to a heavy person. It has been taught and used in Europe, especially in Denmark and Norway, for many years. In answer to specific inquiry, the Red Cross Societies of those nations state that there have been no injuries during administration of the method, either in teaching sessions or in actual resuscitation efforts.

However, special studies were made in this country by Karpovich [10] and by Gordon [11] and his associates; in addition, informal studies have been made in Red Cross classes, utilizing in some cases the services of professional educators and safety engineers. The Y. M. C. A. has also included this method among those it teaches.

These studies, in general, show that the prone pressure is easy to do and to learn, and that the back pressure-arm lift is almost as easy, can be continued long, and can be done by a child or light person upon a heavy subject. The hip lift-back pressure and the hip roll-back pressure are harder to do, cannot be done at all by some upon heavy subjects, and induce fatigue quicker than the back pressure-arm lift method.

The back pressure-arm lift method is essentially the Holger-Nielsen Method.

On the basis of the scientific evidence that the back pressure-arm lift method satisfies the physiological requirements essentially as well as any other studied and has advantages over the prone pressure method, and that it is a feasible one for use under field conditions of asphyxia and for a broad educational program, its adoption for general public use is recommended.

COUNCIL ON FOODS AND NUTRITION

The following products have been accepted as conforming to the rules of the Council.

JAMES R. WILSON, M.D., *Secretary.*

Beech-Nut Packing Company, Canajoharie, N. Y.

BEECH-NUT STRAINED APRICOT DESSERT WITH TAPIOCA. Ingredients: apricot puree, sugar, tapioca, salt and water sufficient for preparation.

Analysis (submitted by manufacturer).—Total solids 21.74%, moisture 78.26%, ash 0.51%, fat (ether extract) 0.29%, protein (N × 6.25) 0.38%, crude fiber 0.46%, carbohydrate other than crude fiber (by difference) 20.10%.

Vitamins and Minerals	Mg./100 Gm.
Crude carotene	1.5
Thiamine	0.013
Riboflavin	0.023
Nicotinic acid	0.38
Ascorbic acid	0.25
Calcium	21
Phosphorus	16
Iron (total)	0.46
Iron (available)	0.26
Copper	0.40

Calories.—0.85 per gram; 24.1 per ounce.

Use.—For use in the feeding of infants and young children.

H. J. Heinz Company, Pittsburgh.

HEINZ STRAINED ORANGE JUICE FOR BABIES is prepared from Florida oranges. It is processed according to standards adopted by the H. J. Heinz Company. These have been examined and accepted by the Council. The following information was submitted by the company: The juice is finely strained; the peel oil content is maintained at a point below 0.020%; dextrose in small amounts is added for the maintenance of a sugar-acid ratio within specified limits; the product is vacuum packed in 4½ ounce metal containers. The average ascorbic acid (vitamin C) content for the 1951 pack was 51.8 mg. per 100 ml. at the time of packing. The average caloric value is 14 calories per ounce.

M & R Laboratories, Columbus, Ohio.

SIMILAC (LIQUID) comprises partially defatted milk (concentrated by evaporation) with lactose, olive oil, cocoanut oil, corn oil, cocoa butter, fish liver oil concentrate, ascorbic acid, and thiamine.

Analysis (submitted by manufacturer).—Total solids 24.10%, moisture 75.90%, minerals 0.75%, fat 6.80%, protein 3.45%, carbohydrate 13.10%.

Vitamins and Minerals	Per 100 Gm.	
Vitamin A	494	U.S.P. Units
Thiamine	0.032	mg.
Riboflavin	0.19	mg.
Ascorbic Acid	9.88	mg.
Vitamin D	79	U.S.P. Units
Calcium	130.00	mg.
Phosphorus	100.00	mg.

Calories.—1.40 per gram; 40 per fluid ounce.

Use.—For use in infant feeding.

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11. Gordon, A. S.; Raymon, F.; Sadove, M. S.; Wedell, H., and Ivy, A. C.: Energy Expenditure of Operators During Manual Artificial Respiration, J. Appl. Physiol., to be published. Gordon, A. S.; Star, S.; Meier, F.; Hale, C., and Ivy, A. C.: Operational and Pedagogical Aspects of Manual Artificial Respiration with Naval Personnel, J. Appl. Physiol., to be published.

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STANDARD NOMENCLATURE OF DISEASES AND OPERATIONS, FOURTH EDITION

On Jan. 2, 1952, the American Medical Association will make available to hospitals the new fourth edition of Standard Nomenclature of Diseases and Operations.[1] Revision of this useful book has been under way intensively for the past three years. It began with the decision to revise made at the Fifth National Conference on Medical Nomenclature, held at the Association Headquarters office in June, 1948. Revision of the book was carried out by the editors under the general supervision of an Editorial Advisory Board and in collaboration with 24 committees representing each of the individual or specialty sections of the book.

Since its inception under the auspices of the New York Academy of Medicine, and the First National Conference on Medical Nomenclature, in 1928, and the subsequent transferral of responsibility for its periodic revision to the American Medical Association in 1937, the "Standard Nomenclature" has grown rapidly to become the standard, and thereby the most acceptable, system for the diagnostic coding of hospital records for more than 70 per cent of U. S. hospitals. Although the dual topographic-etiologic coding system is not uncomplicated, it has demonstrated many times its flexibility both through ease of simplification for the small hospital and in ready expansibility for the large teaching and research hospital.

Because of the wide acceptance of this coding system and the fact that hospital record systems using "Standard Nomenclature" must make the changes provided for in each revision, the editors of the fourth edition have made every effort to avoid changes that were not strictly required. Nevertheless, the rapidly expanding scientific knowledge in many fields in recent years has required a considerable number of changes in several sections of the book. These include a complete revision of the psychobiologic section to bring it into accord with accepted diagnostic terminology of the American Psychiatric Association, a complete revision of the diseases of the hemic and lymphatic section to accord with newer thought in this field, and a complete revision of the section on tumor etiology. Changes in the nomenclature and coding of tumors were preceded by deliberations of the "Standard" committee on oncology with similar committees of the American Cancer Society, the National Research Council, the U. S. National Committee on Health and Vital Statistics, the American Society of Clinical Pathologists, the Armed Forces Institute of Pathology, the U. S. Public Health Service, and others, all of whom have adopted the new nomenclature.

For purposes of a closer identification of two systems the fourth edition has included an appendix cross reference of "Standard" code numbers to code numbers of the "International Statistical Classification of Diseases, Injuries and Causes of Death." The "International" code numbers have also been included parenthetically in the nomenclature section of the book. The main purpose of this has been to simplify the work of hospitals that participate in or contribute toward large-scale state, national, or world statistical studies of disease incidence. It must be emphasized, however, that for purposes of hospital recording the systems are by no means interchangeable. The "Standard" system, as a clinical system, is necessary for the proper separation of individual differences in diseases for recording and research purposes, whereas the "International" system applies mainly to much broader disease groupings for statistical purposes. Thus, one code number in the International list may be used to represent 20 or more conditions classified and coded separately in the "Standard Nomenclature."

In view of the fact that the International list is now accepted on a world basis for statistical analyses by the countries participating in the World Health Organization and the fact that the cross coding to "Standard" has been a tremendously detailed and time-consuming work, it seems pertinent now to suggest that the combined systems, clinical and statistical, would be an appropriate consideration for the World Medical Association for sponsorship or adoption in either the present or the next edition.

Unquestionably, the adoption of "Standard" in the hospitals of this country not now using it is necessary and can be an effective move toward the unity inherent in calling the same things by the same names.

1. Published by the Blakiston Company, Philadelphia.

LABORATORY-ACQUIRED INFECTIONS

Sulkin and Pike [1] report data collected on laboratory-acquired infections by means of a questionnaire submitted to 5,000 laboratories, including those associated with state and local health departments, accredited hospitals, private clinics, schools of medicine and veterinary science, undergraduate teaching institutions, manufacturers of biologicals, and various governmental agencies. The report includes cases reported in the literature. There were 1,342 infections presumably acquired as a result of laboratory work. Among these there were 39 fatalities, a rate of 3.0%.

The laboratory-acquired infections included 775 bacterial, 265 viral, 200 rickettsial, 39 parasitic, and 63 due to fungi. Brucellosis, tuberculosis, tularemia, typhoid, and streptococcic infections accounted for 72% of the bacterial infections and 31% of all infections. Coccidioides outnumbered all other fungi as a cause of laboratory infection, apparently because of the highly infectious nature of the chlamydospores.

1. Sulkin, S. E., and Pike, R. M.: Survey of Laboratory-Acquired Infections, Am. J. Pub. Health 41:769 (July) 1951.

V 14
1951

The handling of clinical specimens and infected animals or ectoparasites accounted for 175 and 139 cases, respectively. Contamination of air and "work with the agent" were other frequently recognized sources of laboratory infection. There were 98 infections acquired in the autopsy room. The hypodermic needle and the syringe accounted for the largest number of infections due to accident. Seventy-five per cent of all infections occurred among trained, scientific personnel, this being the group that is exposed to the greatest risk. Thirteen of the 95 cases of hepatitis occurred in dishwashers. Of considerable importance, the authors emphasize, is the development of bacterial hypersensitivity in laboratory workers. The sensitivity may become so pronounced that the worker can no longer engage in this type of work.

Among the prophylactic measures against laboratory infections, the realization of the dangers and attempts at proper techniques play an important part.

Long [2] emphasizes that more attention should be paid, in the prophylaxis against tuberculosis, to measures preventing contamination of the air. Experimentation has proved that ultraviolet rays have a markedly favorable effect. There does not seem to be a definite attitude with regard to BCG vaccination. Many investigators believe it exerts a protective influence; a few think it is harmful. However, studies on the effect of BCG vaccination in preventing infection of medical and nursing personnel have firmly established it as a valuable procedure in the tuberculin-negative population of hospitals and tuberculosis sanatoriums. It is urged that, if BCG vaccination is not practiced, tuberculin-negative personnel should be tested with tuberculin periodically. Roentgen examination of all personnel must be carried out at intervals not to exceed six months.

The employment of vaccination against some of the rickettsiae and passive immunization with hyperimmune serum are mentioned by Smadel [3] as some of the measures to be employed. The precautions to be taken naturally vary with the type of organism under study.

SARCOMA "VACCINE"

According to Lewis and Aptekman [1] of the Wistar Institute, Philadelphia, atrophying sarcoma tissue may be antigenic and serve to protect the host against growth of subsequently implanted viable homologous sarcoma tissue. Their experiments were made on young adult rats of a strictly inbred strain and a 100% transplantable sarcoma originating in that strain.

Material for their "vaccination" tests was obtained from 10 to 11-day-old sarcoma transplants between the shoulders on the backs of rats. These tumors had attained a size of about 50 × 20 × 18 mm. The large blood vessels that supplied the tumors were located by means of a bright light directed through the skin, and then ligated. The tumors were then drawn into a fold of skin and secured by a clamp; the fold was then sewed off to form a permanent pocket.

Material removed from these pockets two to four days later was of a cherry red color and semisolid consistency. When 0.5 ml. of this atrophying (partially autolyzed) tissue was injected into susceptible rats, a considerable local reaction took place, resulting in the formation of a cyst containing thick turbid material, which was absorbed after 8 to 14 days. This transplanted atrophying sarcoma tissue failed to grow in any of 60 rats thus treated.

Twenty-one to 60 days later the treated rats were challenged by subcutaneous implantations of viable homologous sarcoma tissue. The tumor failed to grow in all 40 rats that had previously received injections of material which had atrophied for three to four days. Serological studies have thus far failed to demonstrate antibodies in the serum of these rats that would account for this acquired sarcoma-immunity.

Experiments in progress suggest that the presence of the infiltrated bloody edema fluid in the atrophying sarcoma tissue may be related to its apparent antigenicity.

POSTGRADUATE CONTINUATION COURSES FOR PHYSICIANS

The semiannual listing of postgraduate continuation courses for physicians, covering the period Jan. 1 to July 15, 1952, appears elsewhere in this issue. These data, prepared as a regular service by the Council on Medical Education and Hospitals, list 836 courses varying in length from a few days to several months. Some are concentrated full-time courses and others are part time. There are opportunities for the physician in general practice as well as for the specialist. Opportunities for this form of study during the period cited are available in 33 states and the District of Columbia. The subjects embrace 45 major areas in the field of clinical medicine and the basic sciences. The increasing number of courses available for continuation study for the general practitioner is of particular interest. A series of courses for military personnel at medical installations is also included.

Medical schools, state medical societies, hospitals, state and city boards of health, and special societies continue to be active in developing this type of continuation training.

Eighty-eight agencies are participating in sponsoring the courses in this listing, including 30 medical schools, 13 hospitals, 10 graduate schools of medicine, 12 special societies, 7 state chapters of the American Academy of General Practice, 4 state medical societies, 4 county medical societies, 4 governmental agencies, 2 health departments, and 2 schools of public health.

The Council endeavors to make this listing as complete as possible. Institutions and organizations whose courses are not included in the present list are invited to furnish the Council with details pertaining to the opportunities that they have developed for continuation study by physicians.

2. Long, E. R.: The Hazard of Acquiring Tuberculosis in the Laboratory, Am. J. Pub. Health **41**: 782 (July) 1951.

3. Smadel, J. E.: The Hazard of Acquiring Virus and Rickettsial Diseases in the Laboratory, Am. J. Pub. Health **41**: 788 (July) 1951.

1. Lewis, M. R., and Aptekman, P. M.: Antigenicity of Sarcomata Undergoing Atrophy in Rats, J. Immunol. **67**: 193 (Sept.) 1951.

MEDICAL NEWS

CALIFORNIA

Tuberculosis in San Francisco School Children.—A steady decline has occurred in the number of San Francisco children of school age with tuberculosis since intensive case finding was begun in October, 1932. Correspondingly there has been a great decrease in the number exposed as evidenced by the tuberculin test. In 1932 there were 43% positive reactors in the school age group; in 1950 this had decreased to 10%. The decrease in actual cases reached an all time low of 67 in 1950. The Chinese continue to have the highest rate of the nonwhite group, 20.9%. The white population is about seven or eight times that of the nonwhite, but only 49% of the cases were among white children. About 47%, nearly one-half of the cases, occur in the 15 to 19 age group. Every child with a positive tuberculin test has an x-ray and chest examination, a complete history, and a classification by a physician which determines the amount of physical activity advisable. All positive reactors have serial x-ray and physical examinations throughout their entire school life.

FLORIDA

Personal.—Dr. DeWitt C. Daughtry, Miami, has recently been elected president of the Florida Chapter of the American Trudeau Society.

Seminar on Cytology.—The Cancer Cytology Center of the Dade County Cancer Institute in Miami, an affiliate of the Medical Research Foundation of Dade County, has announced its first one-week seminar for physicians to be held at the institute, January 14-19. Instruction will be under the supervision of Dr. J. Ernest Ayre, director of the institute, and its research staff, with more than 20 physicians and scientists on the faculty. The course of instruction will include lectures, demonstrations, and symposiums covering the various branches of medicine as related to cancer, including clinical, cytological, surgical, and histopathological fields. Interested physicians should direct inquiries regarding qualifications, registration, fees, and other details to the Director of the Dade County Cancer Institute, 1155 North West 14th St., Miami. Applications for registration, limited to 35 physicians, will be accepted through January 12.

ILLINOIS

Northwest Territory Centennial Awards.—Northwestern University presented "Centennial Awards for the Northwest Territory" to 100 persons at its Centennial Convocation in Evanston December 2. Nominees for Centennial Awards were selected on the basis that they were living, had achieved prominence in one of the states mentioned, and had made "a substantial contribution to society." They came from Northwest Territory states, Illinois, Indiana, Michigan, Ohio, Wisconsin, and Minnesota. Physicians and medical scientists receiving awards included: Dr. Herman N. Bundesen, president of the Chicago Board of Health; Anton J. Carlson, Ph.D., physiologist, formerly chairman, department of physiology, University of Chicago; Dr. Vernon C. David, formerly chairman, department of surgery, and presently consulting surgeon, Presbyterian Hospital, Chicago; Dr. James B. Herrick, Presbyterian Hospital, Chicago; Roger Adams, Ph.D., head of the chemistry department, University of Illinois, Urbana; Dr. Howard T. Karsner, formerly professor of pathology, Western Reserve University, presently medical research adviser to Bureau of Medicine and Surgery U. S. Navy, Washington, D. C.; Dr. Donald C. Balfour, Mayo Clinic, Rochester, Minn.; Dr. Philip S. Hench, head of the department of rheumatic diseases, Mayo Clinic; Edward C. Kendall, Ph.D., chemist, Mayo Clinic; Dr. William S. Middleton, dean of the Medical School, University of Wisconsin, Madison, Dr. Ralph M. Waters, professor emeritus of anesthesia, University of Wisconsin, Dr. Walter H. Judd, U. S. Representative, Minneapolis.

Physicians are invited to send to this department items of news of general interest, for example, those relating to society activities, new hospitals, education and public health. Programs should be received at least three weeks before the date of meeting.

Chicago

Hospital News.—Harry G. Higgins Jr., comptroller of Miami Valley Hospital in Dayton, Ohio, from 1946 to 1950, has been appointed assistant administrator of the University of Illinois Research and Educational Hospitals.

Scholarship Funds.—Four scholarship gifts totaling $34,000 have been given to the Chicago Medical School. One of $14,000 has been received from the Dave Hokin Foundation; $10,000 is for a subsidiary scholarship, which makes up the difference between what a student pays in tuition and the cost to the school of providing four years of medical training. The remainder is for additional scholarship use to be determined by the school. A subsidiary scholarship of $10,000 was given by Samuel Briskin, Chicago. Another gift of $10,000, to be known as the Barney Ets Hokin Subsidiary Scholarship, was given by three officials of the International Rolling Mills Products Corporation.

INDIANA

Personal.—Dr. Harris B. Shumacker Jr. has gone to Japan and Korea as a consultant to the armed services on the treatment of frostbite, a subject on which he has been doing research. He will spend about three weeks with field hospital units in Korea.

New Indiana Secretary.—James A. Waggener is the new executive secretary of the Indiana State Medical Association, succeeding the late Ray E. Smith. Mr. Waggener, a former newspaperman, had been serving as a field secretary for the Indiana association since May, 1949.

KANSAS

First Color TV Installed in Medical School.—The first color television system to be permanently installed for daily undergraduate and postgraduate medical instruction in any medical school was demonstrated November 29 at the University of Kansas Medical Center. The pioneer black-and-white TV installation two years ago was made possible by state funds; conversion to a color television system was made possible by private funds. The equipment installed at the medical center is the result of two years' cooperation between the University of Kansas, Remington-Rand, Inc., the Columbia Broadcasting System, Inc., and the Wilmot-Castle Light Company. It has been under test in the CBS laboratories for several months. In the auditoriums and conference room teaching areas are console-type color TV direct-view receivers, each enabling 30 to 40 students to view the operative field closely in all its natural colors. The receiver also reproduces the voice of the operating surgeon. The audience can ask questions of the surgeon because the program sound is two-way. An additional installation allows the teachers at the transmitting and receiving ends of the system to communicate privately without their remarks being audible to the student audience. Thus, the doctor-instructor at the receiving end can guide the operating surgeon-lecturer toward the choicest field of view from the standpoint of the audience. A further extension of this installation to the surgical offices and an additional monitor receiver there will allow the professors of surgery to supervise closely the TV teaching when newer instructors are operating and lecturing.

The entire surgical curriculum has been revised so that the new color TV can be used to best advantage. At present the junior medical students studying surgery will be required to attend an hour and one-half session of color TV teaching each morning for 5 days a week for the 11 weeks they study surgery that year. An elective program will continue on the TV until noon each day for those students free to attend. Color TV has also been scheduled for use in the next surgical postgraduate course in January. Whenever a case of unusual interest is in the operating room containing the color camera, a code signal will be sent out over the medical center loudspeaker system calling the surgeons' and students' attention to the desirability of adjourning to the TV receiver.

V 14
1951

KENTUCKY

State Medical Election.—At the recent centennial meeting of the Kentucky State Medical Association in Louisville, Dr. W. Clark Bailey, Harlan, was installed as president. Officers elected were Dr. R. Haynes Barr, Owensboro, president-elect, and Dr. Keith P. Smith, Corbin, Dr. Thomas Van Zandt Gudex, Louisville, and Dr. R. Ward Bushart, Fulton, vice-presidents. Dr. Bruce Underwood, Louisville, secretary and general manager of the association, was named delegate to the American Medical Association for a two-year term. Dr. Gaithel L. Simpson, Greenville, and Dr. Joe M. Bush, Mount Sterling, were chosen Orator in Surgery and Orator in Medicine, respectively, and will deliver the annual orations at the 1952 meeting of the association.

MARYLAND

Medical Book Publishers.—The Williams & Wilkins Company, Baltimore, publishers of medical books and periodicals, have purchased the medical book publishing business of Thomas Nelson & Sons, New York. About November 15 all stock was moved to Baltimore, and all orders for Nelson medical books will be filled from Baltimore.

Merge Health Bureaus.—To improve its services for Baltimore's children, the city health department has merged the Bureau of School Hygiene with the Bureau of Child Hygiene under the direction of Dr. Janet Hardy. The Division of School Health has replaced the former bureau and is under the direction of Dr. Alan M. Foord. He began his work on a part-time basis October 1.

MASSACHUSETTS

First Alumni Scholarship Awarded.—The first student to receive a scholarship award from a $5,000 fund of the Alumni Association of the Boston University School of Medicine is Dwight Akers, third year medical student of Los Atlos, Calif. The scholarships vary from $200 to $400. The alumni association has made available scholarships for students of the Boston University School of Medicine who have good records, who show good promise, and who can make good use of the fund.

Study of Adrenal Gland in Multiple Sclerosis.—The function of the adrenal gland in multiple sclerosis will be investigated at the Peter Bent Brigham Hospital, Boston, as a result of a grant of $15,000 from the National Multiple Sclerosis Society, New York. The investigation will be under the direction of Dr. George W. Thorn, physician-in-chief at the hospital. Studies will be made over a one-year period to determine whether a deficient functioning of the adrenal gland is one of the causal factors in multiple sclerosis.

MICHIGAN

Personal.—Dr. Frank H. Purcell, Detroit, has been appointed medical director of the Sister Kenny Polio Center at Oakland County Contagious Hospital, Pontiac. The local center, affiliated with the United Health and Welfare Fund of Michigan, gave 6,000 treatments to patients throughout the state during 1950.

Franklin Lecture Series.—Dr. John R. Rees, director of the World Federation for Mental Health, London, England, was chosen as the opening speaker in the annual Leo M. Franklin Lectures in Human Relations at Wayne University, Detroit. He lectured on "Mental Health for the Next Generation" at 8 p. m. December 1 in the Rackham Memorial Building. The lecture series and a memorial professorship were established at Wayne University in 1949 by the trustees of Temple Beth El in honor of Leo M. Franklin, who was rabbi of the temple for 42 years before his death. Fritz Redl, Ph.D., professor in the University's School of Social Work, is this year's occupant of the Franklin Memorial Chair, and under the memorial plan, he will be one of the speakers in the series. Other speakers are:

January 17, Benjamin M. Spock, University of Pittsburgh.
February 28, Otto Klineberg, Columbia University, New York.
April 17, Bruno Bettelheim and Allison Davis, University of Chicago.
May 15, Fritz Redl, Wayne University.

MISSOURI

Diphtheria.—Dr. Buford G. Hamilton, Missouri director of health, has reported to the United States Public Health Service that 30 cases of diphtheria occurred in Kansas City in the 2 weeks ended November 17. All of the cases except 1 were reported from a limited area of the city, and 12 of the patients live in a residential hotel.

NEBRASKA

State Association Postgraduate Program.—The Nebraska State Medical Association conducted six one-day postgraduate courses in different parts of the state December 3-8. Courses which dealt primarily with the heart, cancer, and corticotropin (ACTH) therapy were held in Beatrice, Norfolk, Grand Island, McCook, North Platte, and Scottsbluff. Guest members of the faculty were Drs. Max Cutler, director, Chicago Tumor Institute, and Richard J. Meyer, Armour Laboratories, Chicago; Stuart Abel, Northwestern University, Chicago, and Joseph B. Vander Veer, University of Pennsylvania, Philadelphia. It was the medical association's first venture into this type of postgraduate training. The one-day courses in various parts of the state are aimed at "taking medical education to the doctors," thereby eliminating a good deal of lost time for a physician away from his practice.

NEW YORK

Appoint Pathologist at Brookhaven.—Dr. John Thomas Godwin of New Orleans assumed his post as head of the division of pathology and pathologist at Brookhaven National Laboratory Hospital, Upton, Long Island, succeeding Dr. Sidney C. Madden, who accepted the professorship of pathology at the University of California at Los Angeles. For the past year Dr. Godwin has been pathologist for the Ochsner Clinic and Foundation Hospital in New Orleans, and lecturer in pathology, Tulane University of Louisiana School of Medicine.

Postgraduate Lectures.—Dr. Claude E. Heaton, associate professor of obstetrics and gynecology at New York University College of Medicine, will speak on "Management of Breech Presentation" before the Unity Hospital staff in Brooklyn at 10:30 a. m. December 20 at the hospital. This is part of the instruction provided by the Medical Society of the State of New York in cooperation with the New York State Department of Health.

New York City

School-Hospital for Young Narcotic Addicts.—Riverside Hospital, on North Brother Island in the East River, is being organized as a school-hospital for teen-age narcotics users and addicts. Major alterations are expected to get under way by the end of the year and admission of patients is scheduled to begin April 1. Dr. Jerome L. Leon, deputy medical superintendent of Queens General Hospital, has been appointed medical superintendent of the hospital. During four years in military service, he was assigned psychiatric duties with a general hospital unit which saw two years' duty in the South Pacific. All the resources of the community concerned with the teen-age addiction problem will be centered in the 150-bed facility. The resident professional staff is planned to include a senior psychiatrist, four junior psychiatrists, four psychologists, nine psychiatric social workers, seven recreation leaders, four occupational therapists, and a physical education instructor, in addition to the customary nursing staff. Three chaplains will be assigned to the hospital. Working with the resident staff will be a visiting staff being set up under the department of psychiatry of New York Medical College, Flower and Fifth Avenue Hospitals. The school unit will be staffed and operated by the Board of Education. Office space and facilities will be made available to the several public and voluntary agencies who will assume responsibility for the follow-up work on the young patients. To make sure that the above coordination of community effort is effective, patients will be intensively screened on admission and those who are psychotic or otherwise deemed to be hopeless will be sent to appropriate institutions.

SOUTH CAROLINA

Assembly Studies Mental Health Facilities.—The State General Assembly has created a state committee to study mental health facilities and legislation in South Carolina. The group is inspecting both public and private institutions in the state and will make its report to the General Assembly next year.

UTAH

Personal.—Urs P. Hoessley has been named assistant research professor in the department af anatomy at the University of Utah College of Medicine, Salt Lake City.

New State Health Commissioner.—Dr. George A. Spendlove, who for the last year has been acting director of the state department of health, was named state health commissioner Sept. 7. Dr. Spendlove formerly was with the United States Public Health Service for four years.

VIRGINIA

Appoint Executive Secretary.—Mr. Robert I. Howard has been appointed executive secretary-treasurer and director of public relations for the Medical Society of Virginia. He assumed office October 5. Mr. Howard formerly was assistant to the late Henry S. Johnson, whom he succeeds.

Symposium on Traumatic Injuries.—"Common Traumatic Injuries in General Practice" will be the subject of a conference for general physicians of the state at the University of Virginia Department of Medicine, Charlottesville, January 11. This will be the second in a series of postgraduate symposiums scheduled for the academic year and will be followed by a conference on infectious diseases April 4.

Dr. Meredith Heads Department.—Dr. John M. Meredith has been named professor and head of the department of neurological surgery at the Medical College of Virginia, Richmond, succeeding Dr. Claude C. Coleman, who had resigned (THE JOURNAL, July 21, p. 1141). Dr. Meredith was on the teaching staff of the University of Virginia at Charlottesville, from 1937 until he became associated with Dr. Coleman in 1941.

WASHINGTON

Dr. Allen Leaves University for Federal Post.—The Associated Press reported on November 22 that Dr. Raymond B. Allen has resigned as president of the University of Washington to accept an appointment by President Truman as director of the Psychological Strategy Board early in January. Dr. Allen was executive dean of the Chicago colleges of the University of Illinois and dean of the college of medicine before he went to Seattle in 1946. The Psychological Strategy Board directs the government's cold war against Russia and her satellites. It is now headed by Gordon Gray, president of the University of North Carolina, who is understood to be anxious to return to his university post. Dr. Allen has held three national positions during his presidency at the university. He was a member of the Eberstadt Committee of the Hoover Commission, was first director of medical services for the National Military Establishment, and last summer acted as chairman of the Salary Stabilization Board of the Economic Stabilization Agency.

WEST VIRGINIA

Personals.—Dr. Robert T. Stenberg of Richmond, Ind., has been named superintendent of Spencer State Hospital, succeeding Dr. Thomas S. Knapp, who resigned to engage in private practice in South Charleston. Dr. Stenberg has recently been with the Veterans Administration hospitals in Fort Custer, Mich., and at Fort Benjamin Harrison, Ind.——Dr. James A. Haney of Steubenville, Ohio, who has served as health commissioner for Jefferson County for four years, has accepted appointment as assistant superintendent at Hopemont Sanitarium and assumed his duties there December 1. He succeeds Dr. Edwin J. Kroeker, who resigned.——Drs. Grover C. Corder of Jane Lew and William M. Echols of Richwood, members of the Central West Virginia Medical Society, were recently elected to honorary lifetime membership in the West Virginia State Medical Association.——Dr. Walter E. Vest, Huntington, who has served for several years as editor of the *West Virginia Medical Journal*, has been reelected a member of the publication committee for the five-year term ending December 31, 1956.

State Society to Distribute Press Code.—The council of the West Virginia State Medical Association at the regular fall meeting in Parkersburg October 28 directed that the Doctor-Press-Radio Code of Ethics be printed in a form suitable for framing and distributed to all members of the state medical association, newspapers, trade and professional journals, and broadcasting stations in West Virginia. The code was prepared by a committee headed by Dr. Everett L. Gage, Bluefield, and has been approved by the council, the Journalism Conference, composed of members of the newspaper profession in West Virginia, and by the West Virginia Broadcasters' Association. The code will be printed and mailed out early in December.

GENERAL

Society Elections.—The American Public Health Association at its meeting in San Francisco in October chose the following officers for the coming year: Dr. Gaylord W. Anderson, Minneapolis, president; Dr. Wilton L. Halverson, San Francisco, president-elect; Charles Glen King, Ph.D., New York, treasurer, and Dr. Reginald M. Atwater, New York, executive secretary.

Meeting on Nervous and Mental Diseases.—The Association for Research in Nervous and Mental Diseases will hold its annual meeting December 14-15 at the Hotel Roosevelt, New York, under the presidency of Dr. S. Bernard Wortis, New York. The subject of this year's meeting is "Treatment in Psychiatry." A total of 33 papers to be presented will divide the subject of treatment into individual and group psychotherapy; biological, electrical, and pharmacological treatments, and neurosurgical treatments.

Dearholt Medalist.—Dr. John H. Skavlem, medical director of Dunham Hospital, Cincinnati, has been named recipient of the 1951 Dearholt Medal by the Mississippi Valley Conference on Tuberculosis. The medal is given annually by the conference for outstanding contributions to tuberculosis control. Dr. Skavlem, who received the award during the recent meeting of the conference in Chicago, is president of the American Trudeau Society, medical section of the National Tuberculosis Association, and a member of the National Tuberculosis Association board of directors. He is also a past president of the Mississippi Valley Trudeau Society. Dr. Skavlem served for several years as a member of the ATS council and advisory board, as well as on numerous committees of the society.

Awards in Plastic Surgery.—The Foundation of the American Society of Plastic and Reconstructive Surgery has announced its prizes for 1951. The first scholarship was not awarded. The second was given to Dr. Richard B. Stark, New York, for his essay on "The Cross-Leg Flap Procedure." Honorable mention was awarded Dr. Kathryn Lyle Stephenson, Santa Barbara, Calif., for her essay on "The Production of Ectopic Cartilage," to Dr. Michael Tempest, Leeds, Yorkshire, England, for an essay on "Cross-Finger Flaps in the Treatment of Injuries to the Finger Tip," and to Dr. Allyn J. McDowell, North Hollywood, Calif., for an essay on "Mass Treatment of Burns in Atomic Warfare."

Pamphlet on Glaucoma.—The National Society for the Prevention of Blindness, 1790 Broadway, New York, has published an eight-page pamphlet on glaucoma and copies are available without charge. The pamphlet points out that the best defense against glaucoma is a thorough eye examination at least once every two years after the 40th birthday. The three main points to remember about glaucoma are said to be (1) it strikes after 40 in most cases; (2) it is difficult to detect in early stages and as a result many have the disease and do not know it, and (3) it can usually be checked if caught early. According to the society, 800,000 men and women over 40 years of age are slowly losing sight from glaucoma because of ignorance and neglect. Unfortunately, most of them do not realize that they face blindness.

V 1
195

Radiation Research Society.—The formation of this group was announced November 13 by Gioacchino Failla, D.Sc., professor of radiology and director of the radiology laboratory at the Columbia University College of Physicians and Surgeons, New York, at a dinner of the Alumni of the Oak Ridge (Tenn.) Institute Isotope Training Course. Its objects are to promote research in the sciences relating to radiation; to facilitate integration of different disciplines in the study of radiation effects, and to promote the diffusion of knowledge in these fields. Membership will be limited to those who "have made meritorious contributions to the advancement of radiation physics, chemistry or biology by independent or original research, or have rendered some other special service to the cause of the natural and life sciences."

AAAS Meeting in Philadelphia.—The American Association for the Advancement of Science will hold its annual meeting in Philadelphia, December 26-31. The program includes a session on medicinal chemistry December 28. A four-session symposium on Abnormalities of Lipid Metabolism, with special reference to arteriosclerosis, will be held December 29-30. There will also be a medical scientists' dinner on December 29, at which Malcolm Soule, D.Sc., Ann Arbor, Mich., will deliver a vice-presidential address. The Oak Ridge Institute of Nuclear Studies will present a two-day symposium on Radioisotopes in Medicine on December 28, and the program of the Society for Research in Child Development includes a symposium on Biochemistry of Nutrition in Human Growth on December 27. Registration fees are $2 for members of the association and $3 for nonmembers.

Research on Adolescent Problems.—The Austin Riggs Foundation will make an investigation of the problems of adolescence by studying children at the Riggs Clinic in Pittsfield, Mass., and at its headquarters in Stockbridge, Mass. Juvenile delinquents and young narcotic addicts who come to the attention of the courts in Pittsfield will also be included in the study. The Field Foundation has given $19,800 to carry the project through two years of its five-year plan. Erik H. Erikson of the foundation staff will direct the project. He will also study children at the Psychiatric Institute in Pittsburgh. Dr. Robert P. Knight, medical director of the foundation, Dr. Joseph O. Chassell, psychiatrist, Margaret Brenman, Ph.D., and David Rappaport, Ph.D., Stockbridge, Mass., all of the foundation staff, will be consultants. The investigations will cover a study of juvenile delinquency, narcotics addiction, and all the confusing aspirations and emulations that are found during adolescence.

Inventory of Health Research.—The Health Information Foundation is taking a census of health research activities in the United States. Questionnaires have been sent to about a thousand individuals and groups connected with universities and colleges, and to government agencies, nurses' organizations, and others. The foundation wants to find out what social science research in health has been conducted since 1945, and any major work done since 1940, especially as related to levels of community health facilities and services and community participation in health programs and in health social action programs. Some of the facts sought are the areas covered by these research projects, research methods used, and plans for publication of current studies. Over a hundred projects have already been reported. The inventory will serve to reduce duplication and to speed up advancement of health research. Findings from this census will be published early in 1952 for distribution to health and community leaders across the nation. The foundation plans to keep the census current with a new report issued each year.

Earl D. Osborne Fellowship in Dermal Pathology.—This fellowship, sponsored by the American Academy of Dermatology and Syphilology, is to provide annually the opportunity for study and training in dermal pathology for one year to a graduate student who has completed at least two years of training in dermatology or one of its allied branches in accordance with the requirements of the American Board of Dermatology and Syphilology. A stipend of $2,000 will be given to the candidate selected. The period of training will be spent at the Armed Forces Institute of Pathology, Washington, D. C., the appointment being subject to approval by the director of the institute. As the American Board of Dermatology and Syphilology has approved the institute for one year of training, the time spent will be accredited by the board. Dermatologists in training who are interested may obtain application blanks for the Earl D. Osborne Fellowship from Dr. Hamilton Montgomery, 102-110 Second Ave., Southwest, Rochester, Minn., Chairman of the Committee on Pathology of the American Academy of Dermatology and Syphilology. The next appointment available begins July 1, 1952.

Pan American Congress.—The third Pan American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology will be held in Havana, Cuba, January 20-24 under the presidency of Dr. Jose C. Gros. Dr. Chevalier L. Jackson, Philadelphia, has been appointed guest of honor of the Cuban Society of Oto-Laryngology. The tentative program lists the following speakers:

Evaluation of Surgery and Irradiation in Treatment of Laryngeal Cancer, Drs. Leborgne, Uruguay, or Baclesse, France; Alonso, Uruguay, and Martin, United States.

Evaluation of Antibodies, Desensitization and Surgery in the Treatment of Sinusitis, Drs. Hansel, United States; De Lima, Brazil; Schall, United States, and Tato, Argentina.

Nonmalignant Stenosis of the Esophagus, Drs. Mattos Barretto, Brazil; Barani, Uruguay, and Holinger, United States.

A series of instruction courses will also be given. The official languages of the congress are Spanish, French, English, and Portuguese. There will be a system of simultaneous translation of these languages to English and Spanish. Reservations must be made before December 15 with the general secretary, Dr. Pedro Hernandez Gonzalo, 8 No. 358, Vedado, Havana, Cuba. The inscription fee is $10.

Cerebral Palsy Research Award.—Dr. Samuel P. Hicks, Boston, was recently named the first winner of United Cerebral Palsy's Max Weinstein Research Award for the "outstanding scientific achievement" of the year in the field of cerebral palsy. Dr. Hicks, who is associated with Harvard Medical School and New England Deaconess Hospital, Boston, and with the Pondville Hospital, a state cancer hospital in Walpole, Mass., was selected by a four-man committee 24 hours after he had read a noteworthy paper at United Cerebral Palsy's convention in Philadelphia November 3. He reported findings that, in experimental animals, x-rays and certain chemicals given to mothers could produce damage to the brain such as is seen in cerebral palsy. The Weinstein Award, a plaque and $1,000 in cash, was established with a fund of $10,000 left by the late Max Weinstein, chairman of the Board of Russeks Fifth Ave., New York. The award committee included Dr. Sidney Farber, Children's Medical Center, Boston; Dr. Houston Merritt, director of Neurological Institute, New York, and vice-chairman of the association's medical advisory committee; Dr. Seymour S. Kety, National Institute of Neurological Diseases and Blindness, Bethesda, Md., and Dr. James L. Wilson, professor of pediatrics, University of Michigan, Ann Arbor.

Papers for Venereal Disease Symposium.—Investigators with suitable material are urged to submit papers for consideration for the program of the annual venereal disease symposium on "Recent Advances in the Study of Venereal Diseases," which will be held May 1-2, in the Federal Security Building, Washington, D. C. This symposium will again be conducted under the joint auspices of the Experimental Therapeutics Study Section of the National Institutes of Health and the American Venereal Disease Association and will be held in conjunction with the annual meeting of the association. Titles of papers proposed along with the list of authors in proper sequence and brief abstracts should be sent in duplicate to Dr. J. E. Moore, 804 Medical Arts Building, Baltimore 1, and Dr. William L. Fleming, 750 Harrison Ave., Boston 18. The deadline for receipt of titles and abstracts will be January 15. Authors will be notified of the action of the joint program committee within a month after the deadline. Information about the symposium may be obtained from Frederick W. Appel, Ph.D., Executive Secretary, Experimental Therapeutics Study Section, National Institutes of Health, Bethesda 14, Md., or from Dr. Fleming, Secretary of the American Venereal Disease Association, at the above address.

Tropical Medicine and Malaria Societies Merge.—A new scientific body, the American Society of Tropical Medicine and Hygiene, has been formed by the amalgamation of the 47-year-old American Society of Tropical Medicine and the 34-year-old

National Malaria Society. The dissolution of the long-established scientific groups was a recognition of the virtual eradication of endemic malaria from this country, officials said. The new American Society of Tropical Medicine and Hygiene was created to succeed them for "the advancement of tropical medicine and hygiene, including medicine, nursing, engineering, entomology, parasitology and allied specialties in this field." Martin D. Young, Sc.D., Columbia, S. C., of U. S. Public Health Service, was elected president of the new society. Dr. William A. Sodeman of New Orleans and the Tulane University of Louisiana School of Medicine, was named president-elect, and H. W. Van Hovenberg of Mount Pleasant, Texas, was elected vice-president. Galveston, Texas, was chosen as the place of the first meeting sometime in 1952. The American Society of Tropical Medicine and the National Malaria Society met jointly in Chicago in November with the American Academy of Tropical Medicine and the American Society of Parasitologists, two organizations which are not affected by the merger.

Symposium on Premedical Education.—Alpha Epsilon Delta, national premedical honor society, in cooperation with the American Association for the Advancement of Science (Section K, Subsection Nm-Medicine), the American Society of Zoologists, and Beta Beta Beta biological fraternity, will conduct a symposium at the Benjamin Franklin Hotel, Philadelphia, December 28, on "Premedical Education and Social Health." The program will include the following speakers: Hugh E. Setterfield, Ph.D., professor of anatomy, School of Medicine, Ohio State University, "Introductory Remarks"; Dr. John McK. Mitcheli, dean of the School of Medicine, University of Pennsylvania, "Social Problems in Medicine"; Dr. Maurice H. Greenhill, associate professor of psychiatry, The Duke University School of Medicine, Durham, N. C., "Health Problems of Social Origin," and Luther E. Woodward, Ph.D., coordinator, New York State Department of Mental Hygiene, "Emotional Factors in Social Health." Attention will be focused on medical problems which emphasize the importance of social sciences in the premedical educational program. Persons interested in premedical education and student guidance are invited. Reservations for the luncheon (price $3) may be made in advance by writing to Maurice L. Moore, Ph.D., 37 Whitemarsh Road, Ardmore, Pa.

Report of Commonwealth Fund.—According to its annual report made public November 19, the first goal of the Commonwealth Fund at present is the better teaching of doctors. Gifts for this purpose accounted for $1,008,242.50 out of the year's total appropriations of $2,879,383.99. The fund made grants during the year to seven institutions. The largest, $344,725, went to Cornell University Medical College for three years' support of a clinic for comprehensive medical care in the outpatient department of New York Hospital, to which medical students will be assigned for half their senior year. The grant also continues partial support of a special clinic which is training teachers and conducting research in psychosomatic medicine. The aim of this plan is to give the student time to see the same patient repeatedly and so to get a better idea of health and sickness as a continuing experience rather than a succession of unrelated episodes. A grant of $264,912 went to the University of Colorado School of Medicine for the first three years of an experiment intended "to demonstrate the practice of good general medicine." At the Denver General Hospital students will have consecutive experience in the care of patients for at least two years. Grants to the department of rehabilitation and physical medicine of the New York University College of Medicine and to the University of Cincinnati College of Medicine were designed to strengthen medical care by skilful attention to the patient's emotional needs. Renewed support was given to a regional postgraduate educational service of the Medical College of Virginia and the University of Virginia. The fund will contribute to the cost of training scientists for medical research at the Massachusetts Institute of Technology for the next five years, and is helping in the development of field training at the Harvard School of Public Health.

Appropriations for experimental health services, including public health and hospital activities, amounted to $679,471.84. The largest new grant in this field was for a study of family experience with medical care under the Health Insurance Plan of Greater New York and in a comparable sample of New York families outside that plan. Studies of schizophrenia at Tulane University of Louisiana School of Medicine headed the list of 13 grants for medical research amounting to $454,768.50. Advanced fellowships in medicine, offered primarily to teachers in medical schools, were awarded to 19 Americans. The capital of the fund has been increased to $81,000,000 through the termination of a trust established by Edward S. Harkness and by bequest from Mrs. Harkness, who also left the fund her house at 1 East 75th St., New York. This is being altered to serve as headquarters for the fund's operations.

FOREIGN

Symposium Neuroradiologicum.—The third Symposium Neuroradiologicum will be held in Stockholm Sept. 17-20, 1952, under the presidency of Professor Erik Lindgren, Stockholm. The main theme will be "Vertebral Angiography, Roentgen Diagnosis of Spinal Tumor, and Phlebography in Neuroradiology." All those wishing to attend should send their names and addresses to the Secretary, Docent Åke Lindbom, Symposium Neuroradiologicum, Serafimerlasarettet, Stockholm K, Sweden.

CORRECTION

Nobel Prize for Yellow Fever Vaccine.—The late Dr. W. Lloyd and Dr. Hugh Smith, to whom Dr. Max Theiler, Nobel Prize winner in medicine, gives credit for helping develop the yellow fever vaccine in the laboratory in New York, were members of the International Health Division of the Rockefeller Foundation, not of the Rockefeller Institute, as was stated in THE JOURNAL November 3, p. 985.

Michael Reese Hospital.—In the Internship and Residency Number of THE JOURNAL, Sept. 29, 1951, the listing of Michael Reese Hospital, Chicago, under approved internships on page 390 should have noted that the hospital is used to a limited extent in the teaching program of Northwestern University Medical School, Chicago. This notation was inadvertently omitted from the listing as originally published.

V 14
1951

EXAMINATIONS AND LICENSURE

BOARDS OF MEDICAL EXAMINERS

ALABAMA: *Examination.* Montgomery, June 24-26, 1952. Sec., Dr. D. G. Gill, 537 Dexter Ave., Montgomery 4.

ARIZONA:* *Examination.* Phoenix, Jan. 19. *Reciprocity.* Phoenix, Jan. 15-17. Sec., Dr. J. H. Patterson, 316 W. McDowell Road, Phoenix.

ARKANSAS:* *Eclectic.* Little Rock, June 5-6. Sec., Dr. Frank C. Smith, 2301 Broadway, Little Rock.

COLORADO:* *Examination.* Denver, Jan. 9-11. Final date for filing application is Dec. 10. Sec., Dr. Samuel H. Brown, 831 Republic Bldg., Denver 2.

CONNECTICUT:* *Regular Examination.* Hartford, March 11-12. Sec. to the Board, Dr. Creighton Barker, 160 St. Ronan St., New Haven. *Homeopathic Examination.* Derby, March 11. Sec., Dr. Donald A. Davis, 38 Elizabeth St., Derby.

DELAWARE: *Examination.* Dover, Jan. 8-10. *Endorsement.* Dover, Jan. 17. Sec., Dr. J. S. McDaniel, 229 South State St., Dover.

FLORIDA:* *Examination.* Jacksonville, Nov. 25-27. Sec., Dr. Homer L. Pearson, 701 DuPont Bldg., Miami.

GEORGIA: Atlanta and Augusta, June. Sec., Mr. R. C. Coleman, 111 State Capital, Atlanta 3.

GUAM: The Commission on Licensure will meet whenever a candidate appears or submits his credentials. Ex. Sec., Dr. John K. Battenfield, Agana.

HAWAII: *Examination.* Honolulu, Jan. 14-17. Final date for filing application is Dec. 14. Sec., I. L. Tilden, 1020 Kapiolani St., Honolulu.

IDAHO: Boise, Jan. 7-9. Sec., Mr. Armand L. Bird, 305 Sun Bldg., Boise.

ILLINOIS: Chicago, Jan. 22-24. Supt. of Regis., Mr. Charles F. Kervin, Capitol Bldg., Springfield.

INDIANA: Indianapolis, June 1952. Sec., Dr. Paul R. Tindall, 1138 K of P Bldg., Indianapolis 4.

KANSAS: Topeka, Dec. 12-13. Sec., Dr. O. W. Davidson, 772 New Brotherhood Bldg., Kansas City.

KENTUCKY: *Examination.* Louisville, Dec. 11-13. Sec., Dr. Bruce Underwood, 620 S. 3rd St., Louisville.

MAINE: Portland, March 11-12. Sec., Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Examination.* Baltimore, Dec. 11-14. Sec., Dr. Lewis P. Gundry, 1215 Cathedral St., Baltimore.

MASSACHUSETTS: *Examination.* Boston, Jan. 15-18. Sec., Dr. Robert C. Cochrane, Room 37 State House, Boston.

MICHIGAN:* *Examination.* June. Sec., Dr. J. E. McIntyre, 100 W. Allegan St., Lansing 8.

MINNESOTA:* Minneapolis, Jan. 15-17. Sec., Dr. J. F. Du Bois, 230 Lowry Medical Arts Bldg., St. Paul 2.

MISSISSIPPI: *Reciprocity.* Jackson, December. *Examination.* Jackson, June. Asst. Sec., Dr. R. N. Whitfield, Old Capitol Bldg., Jackson.

MISSOURI: *Examination.* Jefferson City, Feb. 19-21. *Reciprocity.* Jefferson City, Feb. 11. Exec. Sec., Mr. John A. Hailey, Box 4, State Capitol Bldg., Jefferson City.

MONTANA: Helena, April 1. Sec., Dr. S. A. Cooney, 214 Power Block, Helena.

NEVADA:* Carson City, Feb. 4. Sec., Dr. George H. Ross, 112 Curry St., Carson City.

NEW HAMPSHIRE: Concord, March 12-13. Sec., Dr. John S. Wheeler, State House, Concord.

NEW JERSEY: *Examination.* Trenton, June 17-19. Sec., Dr. E. S. Hallinger, 28 W. State St., Trenton.

NEW MEXICO:* Santa Fe, April 7-8. Sec., Dr. Charles J. McGoey, Coronado Bldg., Santa Fe.

NEW YORK: *Examination.* Albany, Buffalo, New York City and Syracuse, Feb. 5-8. Sec., Dr. Jacob L. Lochner, Jr., 23 S. Pearl St., Albany.

NORTH CAROLINA: *Endorsement.* Raleigh, Jan. 21. Sec., Dr. Joseph J. Combs, 419 Professional Bldg., Raleigh.

NORTH DAKOTA: Grand Forks, Jan. 2-5. Sec., Dr. C. J. Glaspel, Grafton.

OHIO: *Examination.* Columbus, Dec. 13-15. Sec., Dr. H. M. Platter, 21 S. Broad St., Columbus.

OKLAHOMA:* *Examination.* Oklahoma City, June 4-5. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

OREGON:* *Examination.* Portland, Jan. 3-5. *Reciprocity.* Portland, Jan. 11-12. Exec. Sec., Mr. Howard I. Bobbitt, 609 Failing Bldg., Portland.

PENNSYLVANIA: Philadelphia, Jan 22-25. Acting Sec., Mrs. M. G. Steiner 351 Education Bldg., Harrisburg.

PUERTO RICO: *Examination.* San Juan, March 4. Sec., Mr. Luis Cueto Coll, Box 3717, Santurce.

RHODE ISLAND:* Providence, Jan. 3-4. Administrator of Professional Regulation, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

SOUTH DAKOTA:* *Examination.* Sioux Falls, Jan. 15-16. Ex. Sec., Mr. John C. Foster, 300 First National Bank Bldg., Sioux Falls.

TENNESSEE:* Memphis, Dec. 19-20. Sec., Dr. H. W. Qualls, 1635 Exchange Bldg., Memphis.

VERMONT: Burlington, Jan. 31-Feb. 2. Sec., Dr. F. J. Lawliss, Richford.

WEST VIRGINIA: *Examination.* Charleston, Jan. 7-9. Sec., Dr. N. H. Dyer, Capitol Bldg., Charleston 5.

WISCONSIN:* Madison, Jan. 8-10. Sec., Dr. A. G. Koehler, River Falls.

WYOMING: Cheyenne, Feb. 4. Sec., Dr. Franklin D. Yoder, Capitol Bldg., Cheyenne.

BOARDS OF EXAMINERS IN THE BASIC SCIENCES

ALASKA: *Examination.* On application. Juneau or other towns in Territory as decided by Board. *Reciprocity.* On application. Sec., Dr. C. Earl Albrecht, Box 1931, Juneau.

ARIZONA: Tucson, Dec. 18. *Examination.* Sec., Mr. Herbert D. Rhodes, University of Arizona, Tucson.

COLORADO: Denver, March 5-6. *Examination.* Sec., Dr. Esther B. Starks, 1459 Ogden St., Denver 18.

CONNECTICUT: New Haven, Feb. 8. *Examination.* Miss Mary G. Reynolds, Executive Assistant, State Board of Healing Arts, 110 Whitney Ave., New Haven 10.

DISTRICT OF COLUMBIA: *Examination.* Washington, April 21-22. Sec., Dr. Daniel L. Seckinger, 4130 E. Municipal Bldg., Washington, D. C.

FLORIDA: Gainesville, June 7. *Examination.* Sec., Mr. M. W. Emmel, Box 340, University of Florida, Gainesville.

IOWA: Des Moines, Jan. 8. *Examination.* Sec., Dr. Ben H. Peterson, Coe College, Cedar Rapids.

MICHIGAN: Detroit and Ann Arbor, Jan. 11-12. *Examination.* Sec., Miss Eloise LeBeau, 501 W. Michigan Ave., Lansing 15.

MINNESOTA: *Examination.* Minneapolis, Jan. 8-9. Sec., Dr. Raymond N. Bieter, 105 Millard Hall, University of Minnesota, Minneapolis.

NEBRASKA: Omaha, Jan. 8-9. Director, Bureau of Examining Boards, Mr. Husted K. Watson, Room 1009, State Capitol Bldg., Lincoln 9.

NEVADA: Reno, Jan. 8. *Examination.* Sec., Mr. Frank Richardson, University of Nevada, Reno.

NEW MEXICO: *Examination.* Santa Fe, Dec. 16. Sec., Mrs. Marguerite Cantrell, Box 1592, Santa Fe.

OKLAHOMA: *Examination.* Oklahoma, April 14. Sec., Dr. Clinton Gallaher, 813 Braniff Bldg., Oklahoma City.

RHODE ISLAND: Providence, Feb. 13. *Examination.* Administrator of Professional Regulation, Mr. Thomas B. Casey, 366 State Office Bldg., Providence.

TENNESSEE: *Examination.* Memphis, Dec. 27-28. Sec., Dr. O. W. Hyman, 864 Union Ave., Memphis.

TEXAS: Austin, April. *Examination.* Sec., Bro. Raphael Wilson, 306 Nalle Bldg., Austin.

* Basic Science Certificate required.

MEETINGS

AMERICAN COLLEGE OF CLINIC ADMINISTRATORS, Conrad Hilton Hotel, Chicago, Jan. 13-15. Dr. R. J. Wilkinson Jr., 1115 Sixth Avenue, Huntington, W. Va., President.

AMERICAN ACADEMY OF DERMATOLOGY AND SYPHILOLOGY, Palmer House, Chicago, Dec. 8-13. Dr. John E. Rauschkolb, P. O. Box 6565, Cleveland, Secretary.

AMERICAN SOCIETY FOR SURGERY OF THE HAND, Palmer House, Chicago, Jan. 25-26. Dr. J. H. Boyes, 1401 S. Hope St., Los Angeles 15, Secretary.

ANNUAL CONGRESS ON INDUSTRIAL HEALTH, William Penn Hotel, Pittsburgh, Jan. 18-19. Dr. Carl M. Peterson, 535 N. Dearborn St., Chicago 10, Secretary.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES, Hotel Roosevelt, New York, Dec. 14-15. Dr. Clarence C. Hare, 170 Maple Ave., White Plains, N. Y., Secretary.

INTERNATIONAL MEDICAL ASSEMBLY OF SOUTHWEST TEXAS, Municipal Auditorium, San Antonio, Jan. 22-24. Dr. John J. Hinchey, P. O. Box 2445, San Antonio 6, Secretary.

PUERTO RICO MEDICAL ASSOCIATION, Santurce, Dec. 12-16. Dr. Victor J. Montilla, P. O. Box 3866, Santurce, Secretary.

INTERNATIONAL

AUSTRALASIAN MEDICAL CONGRESS, Melbourne Victoria, Australia, Aug. 22-30. Dr. C. H. Dickson, Medical Society Hall, 426 Albert St., East Melbourne, Victoria, Australia, Hon. General Secretary.

COMMONWEALTH AND EMPIRE HEALTH AND TUBERCULOSIS CONFERENCE, Central Hall, London, England, July 8-13. Dr. J. H. Harley Williams, Tavistock House North, Tavistock Sq., London, W.C.1, England, Secretary General.

INTERNATIONAL COLLEGE OF SURGEONS, Madrid, Spain, May 20-24. Dr. Max Thorek, 850 West Irving Park Road, Chicago, Ill., U. S. A., Secretary-General.

INTERNATIONAL CONGRESS OF INTERNAL MEDICINE, Friends House, London, N.W.1, Eng. Sept. 15-18. Sir Harold Boldero, 12 Pall Mall East, London. S.W.1, England, Secretary.

INTERNATIONAL CONGRESS ON MENTAL HEALTH, Mexico City, Mexico, Dec. 11-19. Mrs. Grace E. O'Neill, Division of World Affairs, National Association on Mental Health, 1790 Broadway, New York 19, N. Y., U. S. A.

INTERNATIONAL CONGRESS ON NEUROPATHOLOGY, Rome, Italy, Sept. 8-13. Dr. Armando Ferraro, 722 W. 168th St., New York, N. Y., U. S. A., Secretary General.

INTERNATIONAL CONGRESS OF PHYSICAL MEDICINE, London, England, July 14-19. Dr. A. C. Boyle, 45, Lincoln's Inn Fields, London, W.C.2, England, Hon. Secretary.

LATIN AMERICAN CONGRESS OF PHYSICAL MEDICINE, Panama City, R. P., Feb. 24-29. Dr. Cassius Lopez de Victoria, 176 East 71st St., New York, N. Y., U. S. A., Executive Director.

NEURORADIOLOGIC SYMPOSIUM, Stockholm, Sweden, Sept. 17-20. Docent Ake Lindbom, Symposium Neurofadiologicum, Serafimerlasarettet, Stockholm K., Sweden, Secretary.

PAN AMERICAN CONGRESS OF OPHTHALMOLOGY, Mexico City, Mexico, Jan. 6-12. Dr. Luis Sanchez Bulnes, Gomez Farias 19, Mexico 4, D.F., Secretary-General.

PAN AMERICAN CONGRESS OF OTORHINOLARYNGOLOGY AND BRONCHOESOPHAGOLOGY, Havana, Cuba, Jan. 20-24.

DEATHS

Acuff, Herbert ✠ Knoxville, Tenn.; born in Washburn, Tenn., Aug. 22, 1886; University of Louisville (Ky.) Medical Department, 1911; also a graduate in pharmacy; president since 1950 and treasurer from 1946 to 1948 of the International College of Surgeons, since 1947 founder fellow of its qualification board, and president of the United States Chapter from 1946 to 1948; life fellow of the American College of Surgeons and the Southeastern Surgical Congress, of which he was president in 1947-1948; in 1945-1946 member of the board of directors of the American Cancer Society and since 1945 member of the board of directors and service director of the Tennessee Division; member of the American Association of Railway Surgeons, the American Goiter Association and the United States Committee, Inc., of the World Medical Association, the Civitan Club (international president, 1926-1927), and past president of the Knoxville Academy of Medicine; associate member of the American College of Chest Physicians; honorary fellow of the Surgical Society of Rome, Italy, Piedmontese Society of Torino, Italy, Medical and Surgical Society of São Paulo, Brazil, Societa Tosco-Umbra de Chirurgia, and Sociedad Mexicana de Estudios Anatomicos y de Tecnica Operatoria; received degree of honoris causa from University of Buenos Aires; served as a major in the medical corps of the United States Army during World War I; since 1945 secretary of the International Board of Cancerology; member of the Tennessee Hospital Board and the Tennessee Hospital Licensing Board; visiting surgeon, Fort Sanders, East Tennessee Baptist, and Knoxville General hospitals; consulting surgeon and chairman of the operating committee of the Beverly Hills Sanatorium; chief-of-staff, St. Mary's Memorial Hospital; president and surgical director of the Acuff Clinic; surgeon, Southern Railway System; chief consulting surgeon since 1915 of the Pruden Coal and Coke Company; active in starting the University of Tennessee Atomic Energy Research Center and Hospital; contributed many papers to medical literature on various surgical subjects; died November 2, aged 65, of coronary disease.

Rogers, Edward James, Pittsford, Vt.; born in Ninety Six, S. C., in 1877; Medical College of the State of South Carolina, Charleston, 1908; Columbia University College of Physicians and Surgeons, New York, 1912; assistant professor emeritus of clinical medicine at the University of Vermont College of Medicine in Burlington; member of the American Trudeau Society, American Medical Association, International Union Against Tuberculosis, and the National Tuberculosis Association; past president of the Vermont State Medical Society and the Eastern Division of the American Sanatorium Association; for many years a member of the state board of health, serving as chairman from 1925 to 1931; advisor to the state department of public welfare from 1923 to 1938; at one time represented Pittsford in the state legislature; for many years medical director of the Washington County Sanatorium in Barre and of the Caverly Preventorium and superintendent and medical director of the Vermont Sanatorium; received the honorary degree of doctor of science from Middlebury College in Middlebury; died in Rutland (Vt.) Hospital October 22, aged 74.

Bonynge, Charles William ✠ Los Angeles; University of Southern California College of Medicine, Los Angeles, 1903; clinical professor of medicine (public health and preventive) at his alma mater; specialist certified by the American Board of Pathology; director of the laboratory of the Certified Milk Commission; president of the American Association of Medical Milk Commissions from June, 1944, to June, 1945; consulting pathologist at Children's Hospital, Los Angeles General Hospital and St. Vincent's Hospital, where he died October 7, aged 71, of ruptured abdominal aneurysm.

Ashbaugh, Roy Asquith, Riverton, Wyo.; Chicago College of Medicine and Surgery, 1914; member of the American Medical Association; died September 19, aged 64.

✠ Indicates Fellow of the American Medical Association.

Blumstein, Nathan ✠ Brooklyn; University of Bellevue Hospital Medical College, New York, 1927; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; specialist certified by the American Board of Otolaryngology; served during World War II; on the staffs of Kings County Hospital, St. Peter's Hospital, Samaritan Hospital, and Midwood Hospital, where he died November 1, aged 50.

Blashill, James Bernard ✠ Grosse Pointe Park, Mich.; University of Michigan Medical School, Ann Arbor, 1930; served during World War II; on the staffs of East Side General Hospital and Alexander Blain Hospital in Detroit; died October 6, aged 47, of amyotrophic lateral sclerosis.

Bowen, Emmett William, Watertown, Wis.; Marquette University School of Medicine, Milwaukee, 1915; member of the American Medical Association; served during World War I; affiliated with St. Mary's Hospital; died September 3, aged 64, of coronary occlusion.

Boynton, Ray D., Wisconsin Dells, Wis.; Marquette University School of Medicine, Milwaukee, 1913; served as health officer; affiliated with Reedsburg (Wis.) Municipal Hospital and St. Mary's Ringling Hospital in Baraboo; died August 28, aged 61, of injuries received in an automobile accident.

Butman, William Charles, Hebron, Ind.; Southwestern Homeopathic Medical College and Hospital, Louisville, Ky., 1905; member of the American Medical Association; served as president of the Porter County Medical Society; died September 30, aged 71, of heart disease.

Hill, Elmer ✠ Walla Walla, Wash.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1906; fellow of the American College of Surgeons; for many years physician at the state penitentiary; on the staffs of the Walla Walla General Hospital and St. Mary's Hospital, where he died September 3, aged 69, of coronary occlusion.

Hughes, William H., Mitchellville, Md.; Leonard Medical School, Raleigh, N. C., 1897; died in Freedmen's Hospital, Washington, D. C., September 29, aged 81.

Hupe, Charles, Lafayette, Ind.; Ernst-Moritz-Arndt Universität Greifswald Medizinische Fakultät, Greifswald, Prussia, Germany, 1882; member of the American Medical Association; for 46 years treasurer of the Tippecanoe County Medical Association; for many years on the staff of St. Elizabeth Hospital, where he died September 18, aged 94, of pneumonia following a fractured hip received in a fall.

Kavanagh, Thomas Stephen, New Orleans; Medical Department of Tulane University of Louisiana, New Orleans, 1901; member of the American Medical Association; died October 7, aged 70, of bronchopneumonia, pyelonephritis, and prostatic adenocarcinoma.

Keating, John Joseph, New Milford, Conn.; University and Bellevue Hospital Medical College, New York, 1934; member of the American Medical Association; served during World War II; died October 8, aged 42.

Kerrigan, George Peter, St. Petersburg, Fla.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1901; died in Little Company of Mary Hospital November 1, aged 82.

Kirschner, William Lee, New York; University and Bellevue Hospital Medical College, New York, 1919; member of the American Medical Association and the American Society of Anesthesiologists; associated with St. Francis Hospital; died September 18, aged 57, of heart disease.

Lane, Warner Durelle, Romeo, Mich.; Detroit College of Medicine and Surgery, 1919; member of the American Medical Association; died in Detroit August 1, aged 57, of bronchogenic carcinoma.

V 14
1951

Lauterbach, William Frederick, Dayton, Ohio; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1905; served during World War I; died October 2, aged 70, of coronary thrombosis.

Lisor, Graham MacAllister, Elgin, Ill.; Barnes Medical College, St. Louis, 1911; member of the American Medical Association; affiliated with St. Joseph Hospital and Sherman Hospital, where he died August 30, aged 63, of cardiac decompensation.

Love, John Franklin, Lancing, Tenn.; Lincoln Memorial University Medical Department, Knoxville, 1910; died in Fort Sanders Hospital, Knoxville, October 3, aged 71.

McLemore, William Thomas, Courtland, Va.; University College of Medicine, Richmond, 1899; member of the American Medical Association; died September 29, aged 77, of a heart attack.

May, Robert John ✠ Cleveland; University of Wooster Medical Department, Cleveland, 1906; specialist certified by the American Board of Radiology; member of the American Roentgen Ray Society, Radiological Society of North America, of which he was past president, secretary, and for several years one of the directors, and the American College of Radiology; head of the department of Radiology, St. Luke's Hospital, from 1914 to 1946; died October 17, aged 72, of coronary thrombosis.

Moore, Marshall Abner ✠ Montgomery, W. Va.; Medical College of Virginia, Richmond, 1915; member of the Industrial Medical Association; past president of the Fayette County Medical Society; served during World War I; died October 29, aged 62, of coronary occlusion.

Nafey, Herbert William ✠ New Brunswick, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1914; fellow of the American College of Surgeons; past president of the Society of Surgeons of New Jersey; for many years trustee of the Medical Society of New Jersey; served overseas during World War I; on the staff of the Middlesex General Hospital, where he died October 26, aged 64.

Nafis, William Henry, St. Augustine, Fla.; Long Island College Hospital, Brooklyn, 1895; served during World War I; formerly practiced in Brooklyn, where he was on the staff of Kings County Hospital; died in Flagler Hospital October 4, aged 79, of coronary thrombosis.

Newnam, John Russel ✠ Cheyenne, Wyo.; Indiana University School of Medicine, Indianapolis, 1919; served during World War II; died August 24, aged 57, of coronary thrombosis.

Norden, Benjamin L., Portland, Ore.; University of Oregon Medical School, Portland, 1907; served during World War I; member of the staff of St. Vincent's Hospital; died October 19, aged 72, of acute coronary thrombosis.

Nutter, Roscoe James ✠ Clarksburg, W. Va.; Medical College of Virginia, Richmond, 1910; served during World War I; affiliated with St. Mary's Hospital; died in the Medical College of Virginia Hospital Division, Richmond, October 27, aged 65, of coronary thrombosis.

Park, Samuel Nelson ✠ West Grove, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1921; died October 26, aged 55, of coronary thrombosis.

Pierson, Herbert Seymour ✠ New York; University and Bellevue Hospital Medical College, New York, 1920; died in Memorial Hospital October 6, aged 56, of coronary occlusion.

Post, Woodruff Law ✠ New York; Trinity Medical College, Toronto, Canada, 1897; served with the Canadian Army Medical Corps during World War I; died in Roosevelt Hospital October 10, aged 77.

Purvis, Otis H., Cheraw, S. C.; Medical College of the State of South Carolina, Charleston, 1911; member of the American Medical Association; died September 20, aged 62, of myocardial insufficiency.

Ranes, John R., Mount Vernon, Ind.; Indiana University School of Medicine, Indianapolis, 1908; member of the American Medical Association; died in the Albert Merritt Billings Hospital, Chicago, October 25, aged 70, of carcinoma of the prostate.

Reynolds, Stephen Dowell, Plattsburg, Mo.; Ensworth Medical College, St. Joseph, 1890; member of the American Medical Association; formerly county coroner; served during World War I; died in St. Joseph's Hospital, in St. Joseph September 25, aged 82, of cerebral hemorrhage.

Rhodes, Joseph Winfield, Hayti, Mo.; University of Louisville (Ky.) Medical Department, 1910; died September 22, aged 69, of pneumonia.

Robicsek, Hans, New York; Medizinische Fakultät der Universität, Wien, Austria, 1920; member of the American Medical Association; on the staff of the New York Polyclinic Medical School and Hospital; died in Mount Sinai Hospital October 24, aged 58, of coronary thrombosis.

Russell, Clyde, Fork Ridge, Tenn.; University of Louisville (Ky.) Medical Department, 1910; member of the Kentucky State Medical Association and the American Medical Association; served during World War I; died September 2, aged 64.

Schoolar, Thornley Edward, Randolph, Ala.; University of Nashville (Tenn.) Medical Department, 1892; Vanderbilt University School of Medicine, Nashville, Tenn., 1892; member of the American Medical Association; died in Selma August 30, aged 82, of coronary occlusion and generalized arteriosclerosis.

Shenfeld, Isaac ✠ Atlantic City, N. J.; University of Odessa Faculty of Medicine, Russia, 1922; died September 24, aged 59, of acute coronary occlusion.

Shoales, Walter Addison, Norwich, N. Y.; Cornell University Medical College, New York, 1899; member of the American Medical Association; died September 14, aged 78, of cardiac failure.

Staads, Soeren Wilhelm, Los Angeles; German Medical College, Chicago, 1892; died September 20, aged 82.

Steele, Howard Russell, Ashland, Ky.; Cincinnati College of Medicine and Surgery, 1898; died September 1, aged 78, of myocardial failure.

Tauber, Kurt Stephan, Milbank, S. D.; Medizinische Fakultät der Universität, Wien, Austria, 1925; member of the American Medical Association; died in St. Bernard's Providence Hospital August 2, aged 50, of carcinoma of the colon.

Thexton, Louis, Highland Park, Fla.; Rush Medical College, Chicago, 1891; died in Lakes Wales, August 1, aged 85, of coronary occlusion.

Whichard, Murray Parmer ✠ Edenton, N. C.; University of Maryland School of Medicine, Baltimore, 1910; served as Chowan and Craven counties health officer; died August 28, aged 63, of arteriosclerotic heart disease.

DIED WHILE IN MILITARY SERVICE

Brown, Omar Jesse ✠ Captain, U. S. Navy, Norfolk, Va.; born in Bombay, N. C., July 30, 1902; George Washington University School of Medicine, Washington, D. C., 1929; commissioned a lieutenant (jg) in the medical corps of the Navy in 1929; served his internship at the Naval Hospital in Washington, D. C.; following various assignments, ashore and afloat, was assigned to malaria control work at Marine Corps installations in North Carolina during 1941-1943 and for outstanding performance of duty during this period was commended by Secretary of the Navy; from 1943 to 1945 was in charge of the Navy's epidemic disease control board at the Bureau of Medicine and Surgery; engaged in similar work in the Pacific during World War II; in addition to the Commendation Ribbon, was awarded the American Defense Service Medal, American Area Medal, Asiatic-Pacific Area Medal, Philippine Liberation Medal, and the World War II Victory Medal; specialist certified by the American Board of Pathology; fellow of the American College of Physicians; staff medical officer of the Fleet Marine Force, Atlantic; died in Georgetown University Hospital, Washington, D. C., July 7, aged 48, of acute renal insufficiency following an injury due to a fall.

GOVERNMENT SERVICES

AIR FORCE

Officers Complete Preventive Medicine Course at Tulane.—The first class of medical officers to complete a course in preventive medicine in an Air Force-sponsored curriculum at a civilian public health school has graduated at Tulane University Medical School, New Orleans. The three-month course covered basic principles of preventive medicine, epidemiology, biostatistics, and sanitation. Among the graduating officers were a number who had recently completed their intern training under Air Force auspices in approved hospitals throughout the United States. The balance of the class were assigned from duty stations.

Dr. Waldo Treuting, professor of public health administration, was director of the course. Among the speakers at the graduation ceremony, were Dr. R. L. Pullen, vice-dean of Tulane University School of Medicine; Brig. Gen. Earl Maxwell, director of professional services for the Air Force Surgeon General; Col. F. L. Duff, chief of preventive medicine, Col. R. B. Jones, chief of medical education division, and Lt. Col. John Rizzolo, chief, preventable diseases branch, office of the Surgeon General.

Aviation Medical Examiner Class.—An aviation medical examiner class, including British and Egyptian medical officers, a Belgian, and 76 U. S. Air Force Medical officers, received diplomas November 24 at graduation exercises at the Air Force School of Aviation Medicine, Randolph Field, Texas. It was the largest aviation medical examiner class since World War II.

The graduation address was delivered by Dr. Chauncey D. Leake, vice-president of the University of Texas and dean of its medical branch at Galveston.

Although the U. S. Air Force officers are not eligible for the rating of flight surgeon until they have completed additional service and requirements, the four foreign officers were awarded flight surgeon wings on graduation. This is a customary courtesy extended to foreign officers. The U. S. officers will obtain their Aviation Medical Examiner ratings after they complete a three month supervised preceptorship in the field, conduct 50 physical examinations for flying, and log 25 hours of flying time in military aircraft. As aviation medical examiners their primary duty will be to conduct physical examinations for flying.

Personal.—Col. Oscar S. Reeder has been appointed Chief of the Medical Consultants Division for the Office of Air Force Surgeon General, replacing Col. John F. Dominick, who has been assigned to headquarters of the U. S. Air Force in Europe as Chief of the Professional Services Division.

NAVY

Tulane and Navy Air School Affiliate.—Articles of affiliation between Tulane University of Louisiana and the U. S. Naval School of Aviation Medicine at Pensacola, Fla., were signed on Nov. 16. Tulane graduate students will continue their research activities at the naval school, and naval flight surgeons and other faculty members may earn academic credit from the graduate school of Tulane University for research work. This mutually desirable relationship culminates a number of years of less formal association.

This joining of professional efforts was a highlight of a two-day conference at Pensacola attended by a number of important figures in naval aviation medical research. The panel discussed problems in aviation medical research, selection and training of naval aviators, unusual physiological stresses in flight, and the general problems of aging. The conference was concluded with a cocktail party and banquet at Mustin Beach at Pensacola.

PUBLIC HEALTH SERVICE

Medical Examination Stations in Europe.—Four Public Health Service officers have received overseas assignments recently in medical examination stations of the Division of Foreign Quarantine. Dr. Maurice A. Sislen was sent to Frankfurt, Germany, as Tuberculosis Consultant for the European program and the displaced persons and regular immigration program. Drs. Robert M. Farrier and Patrick J. Sullivan have been assigned as medical officers in charge of examination stations in Salzburg, Austria, and Stuttgart, Germany. Dr. Harry F. Colfer is now medical officer in charge of the London station. A total of 15 Public Health Service officers are at these foreign quarantine posts throughout Europe, maintained to examine immigrants and displaced persons applying for visas to enter the United States. These examination stations are located in the American embassies in Paris, London, and Athens, and in the consulates in Liverpool, Naples, Rotterdam, Frankfurt, Munich, Stuttgart, Berlin, Bremen, Hamburg, Salzburg, and Vienna. Examinations of displaced persons are also conducted in nine Resettlement Centers in Bagnoli, Italy; Funk Kaserne, Ludwigsburg, Rastatt, and Wentorf, Germany; Innsbruck, Kapfenburg, Linz, and Villach, Austria; and one ethnic German center in Hanau, Germany. All but one of these centers are staffed by local physicians, who have been selected for their experience in psychiatry and the reading of tuberculosis films. They are supervised by Public Health Service officers from the consulates.

Arctic Research Center.—Dr. Edward T. Blomquist has been appointed Medical Officer in Charge of the Arctic Health Research Center of the Public Health Service, at Anchorage, Alaska. He succeeds Dr. Jack C. Haldeman, who has been appointed Chief of the Division of State Grants of the Public Health Service in Washington.

This research center is engaged in basic and applied research on public health problems peculiar to low temperature areas. At present, tuberculosis is the principal disease problem in the territory. Results of studies conducted by the center are made available to agencies and organizations engaged in the improvement of public health in the territory. The center has been in operation for three years.

MISCELLANEOUS

Greek Medical Technicians to Be Trained in United States.—Assistance to improve the public health service of Greece has been extended to bring 11 specialists to this country for advanced study. The United States has been assisting in Greece's efforts to make up the loss of medical research and training suffered during the war. The current project is the third effort in this field on behalf of Greece.

Under the first part of the American aid program, sponsored by the Economic Cooperation Administration's technical assistance program and the United States Public Health Service, 15 experts in public health, tuberculosis control, nursing, sanitary engineering, laboratory research, and hospital construction were sent to Greece. This project is not completed. In the second part of this ECA program, 21 Greek physicians and other public health specialists came to the United States last year for advanced training in the same fields, and also in nutrition and orthopedics. Eighteen of this group have completed their studies and returned to Greece. Three of the 11 additional Greek specialists to be given training in the United States under the extension of the program have begun their studies. The eight other Greek trainees under this project are expected to arrive for their studies after the first of the year.

V 14
1951

FOREIGN LETTERS

ITALY

International Medicosurgical Meetings.—A conference on rheumatism was held in association with the international medicosurgical meetings of Turin, in Acqui, a center of studies of rheumatology for many years. Numerous Italian and foreign specialists attended the meetings (chairman, Prof. Robecchi).

Nonarticular Rheumatism and Syndrome Due to Fluid Retention.—The report on this subject was presented by Prof. W. S. C. Copeman of London. This obscure painful syndrome is generally called nonarticular rheumatism. Recently some authors have preferred to use the word fibrositis, but this term is being abandoned since it suggests that the condition is always fibrotic in nature, whereas spasm of the muscle fibers and psychogenic rheumatism have also been considered as causes of the condition. Thus, recent electromyographic studies indicate that certain soft, palpable nodules represent the objective manifestation of spasm of muscle fibers. Presumably this condition results from the irritation of the posterior nerve roots by small lesions localized within or around the spinal cord, such as arthritis of the intervertebral articulations or a lesion of the disks. These soft and palpable nodules sometimes disappear with heat, massage, or local injections of procaine hydrochloride. With regard to the hypothesis of fibrositis, Stockman, in biopsies of painful rheumatic nodules, found inflammatory hyperplasia of the fibrohyaline tissue. These nodules may be the result of infection or trauma and the term fibrositis may correctly be given to this form of nonarticular rheumatism. Professor Copeman observed that, during the course of various febrile diseases, well localized and tender areas may appear. These become painless when the patient's temperature is restored to normal.

With regard to psychogenic rheumatism, it should be pointed out that the appearance of a varying pain is frequent in psychoneurotics. Generally the pain is not attributable to nodules but appears in the tendinous insertions of certain muscle groups. It is possible that, in addition to the aforementioned causes of pain, toxemia elicited by a focal infection may cause chronic pain. According to the speaker, even the adipose tissues may elicit a painful syndrome classifiable as nonarticular rheumatism. Of considerable importance is the tension syndrome, a painful condition due to the periodic swelling of the deep adipose tissue in certain locations where the fat lobules are confined by indistensible fibrous tissue. Because the pain is secondary to fluid retention in the deep adipose tissue, Prof. Copeman tried to treat the syndrome by a reducing diet and by stimulation of diuresis. Results were poor. He was unable to aggravate the tension syndrome in previously affected patients by administration of desoxycorticosterone, the hormone that elicits retention of sodium and water.

Acroparesthesias.—Prof. F. Françon of Aix-le-Bains reported on acroparesthesias, a clinical syndrome characterized by paresthesias of the fingers. They appear almost exclusively in women, during the night, and disappear if special measures are taken. In moderate cases of total acroparesthesia there is a functional syndrome associated with less important physical manifestations. In the case of the functional syndrome, the patient is awakened almost every night, at about 3 a. m., by an abnormal sensation localized in one or both upper extremities and accentuated at their ends (acro).

At first there is paresthesia with numbness, formication, and "needles and pins" at the tip of the fingers and in the palms. The hands are numb and torpid and almost always seem swollen. The movements are hindered. Often pain and sense of constriction are present. The syndrome is in general of short duration. The physical manifestations are rare, because generally there is no vasomotor disturbance; sometimes there is infiltration in the fingers and dilatation of the veins of the hand and of the subclavicular region. Sometimes Raynaud's syndrome, acrocyanosis, Heberden's nodes, or Bouchard's nodes are associated. The general condition is completely unimpaired. Laboratory signs and roentgenologic findings are infrequent. Accurate examination of the cervical region is important. The chronic form of the condition if untreated, may last 10 or more years. When treated, response is generally good, because there is a natural tendency to recovery.

Total acroparesthesia and radicular acroparesthesia have long been differentiated clinically. The former attacks the entire hand and all the fingers and is often associated with manifestations involving the supraclavicular region. The radicular forms resemble cervicobrachial neuralgias. In addition to disturbances of the tendon and the periosteal reflexes, there may be motor disturbances: these manifestations reveal that a nerve root has been injured in some part of its pathway. Sometimes there is the so-called scalenus anterior syndrome, and sometimes, a particular syndrome that Bonduelle has called postural syndrome of the supraclavicular fossa. With regard to pathogenesis, the cause of total acroparesthesia is attributed to autonomic imbalance, while radicular acroparesthesia is believed due to prolonged nervous irritation.

Endocrine Osteoses.—Prof. E. Martin from Geneva drew attention to the incidence of the osteopathies and the complexity of the pathogenetic factors of many of them, including deficient secretion of an endocrine gland—thyroid, hypophysis, gonads, or the adrenals. In skeletal diseases of endocrine origin there are often generalized bone lesions. These osteopathies are not easily detected by macroscopic examination of the bone in autopsy, but only by histological examination.

It is important that the endocrine factor be recognized in a generalized osteopathy.

FINLAND

No Bovine Tuberculosis in Finland.—The immunity to bovine tuberculosis enjoyed by Finland at present is the outcome of much laborious research and administrative enterprise. It is probable that this disease was first introduced into the country a century ago with the import of diseased cattle from abroad. In 1891 tuberculin testing of cattle was started, and in 1894 it was found that 25% of 2,219 cattle gave a positive reaction. By 1897 more than 10,000 cattle had been tested, of which 18.6% had given a positive reaction. Bang's system of isolating positive reactors was adopted, at great cost to the owners. In 1904 compulsory measures were introduced for stamping out bovine tuberculosis, and Bang's system was adhered to on the assumption that it would soon prove completely effective. However, between 1916 and 1928 the decline in percentage of positive reactors was disappointingly slow; it ranged between 4% and 7%. The adoption in 1923 of compulsory control of slaughtered cattle led to a disquieting and at first inexplicable discovery. In this year only 0.15% of the cattle examined post mortem showed signs of tuberculosis, whereas 8.5% of the tuberculin-tested cattle gave a positive reaction. Many positive reactors were found at autopsy to show no other sign of tuberculosis, and both veterinary surgeons and owners came to distrust the tuberculin test as an effective aid to the eradication of bovine tuberculosis.

At this stage a veterinary expert, R. Stenius, was called on by the Finnish Ministry of Health to investigate this curious disproportion between tuberculin and postmortem findings, and in 1928 he set to work on his task. In one herd he found only three positive reactors. They were calves, one of which he was allowed to slaughter. The postmortem findings were almost negative, only a few lymph nodes being swollen. Inoculation tests of experimental animals ultimately yielded tubercle bacilli of the human type. This observation led to the discovery that the calf had been in the care of a person who had subsequently died of pulmonary tuberculosis. This clue has led to a whole series of observations associating positive tuberculin reactions in cattle with open tuberculosis in human beings tending them. It was found that, when a tuberculous person had been in contact for

The items in these letters are contributed by regular correspondents in the various foreign countries.

some time with a hitherto tuberculin-negative herd, some of its members, calves in particular, began after a few months or years to give positive reactions, usually slight. Such positive reactors showed no macroscopic evidence of tuberculosis, and they tended to become tuberculin-negative some time after contact with a tuberculous person had ceased.

The avian type of tubercle bacillus can also render cattle tuberculin-positive. In such cattle there develops either an inactive and latent tuberculosis or an active form of the disease with the development of definite foci. Veterinary surgeons are now applying tuberculin tests designed to distinguish among the bovine, human, and avian types of infection. A test indicative of a bovine infection calls for radical measures, whereas the demonstration of a human type infection requires only the removal of the infecting person, the cow in question being allowed to eliminate the infection in her own good time. The demonstration of the avian type should lead to the discovery and slaughter of tuberculous fowls.

Although infection of cattle with the bovine type has now been stamped out in Finland, cattle are still being tested with tuberculin, partly on the chance that infection with the bovine type may crop up again sporadically in cattle, partly because tuberculin testing of cattle has proved to be an effective means for discovering hitherto undetected cases of infection of human beings with the human type of bacillus.

Domiciliary Treatment of Scarlet Fever.—An outbreak of scarlet fever in Aabo in the autumn of 1950 gave Dr. Leena Leisti and Dr. Wickström an opportunity to test the efficacy of treatment of the disease in the patients' homes. Their observations are recorded in the journal of the Finnish Medical Association, a publication incorporated with other Scandinavian medical journals in *Nordisk Medicin*. This test was promoted by a threatened shortage of hospital beds and by the comparative mildness of the scarlet fever which was epidemic in Finland at the time. When a new case was reported to the polyclinic of the municipal fever hospital of Aabo, a nurse was sent to the home to take swabs of all its occupants, to give instructions with regard to isolation and disinfection, and to administer penicillin (procaine-penicillin by intramuscular injection). At first four injections were given on different days; later, only three injections. When the number of injections was reduced to two, the results were less satisfactory. Later in the epidemic the administration of penicillin was revised to simplify matters, a single injection being followed by the administration of penicillin by mouth on successive days. This single injection consisted of 150,000 units for children up to 5 years of age and 200,000 for children aged 6 to 10 years. The dosage by mouth was 75,000 units for children up to 5 years of age.

Between the middle of October and the end of December, 1950, there were 203 cases of scarlet fever and 121 cases of streptococcic sore throat treated at home, while at the same time 228 cases of scarlet fever and 65 cases of streptococcic sore throat were treated in hospital. Both the home-treated and hospital-treated cases were kept under bacteriologic control with results indicating no differences of statistical significance between the two. Another statistical comparison was made between the home-treated cases in which penicillin was given by injection alone and the home-treated cases in which combined treatment (penicillin administered by a single injection followed by its oral administration) was given. Here again there was no statistically significant difference. The combined treatment would therefore seem to be the better of the two, because of its greater simplicity. The authors of this report stress the complexity of the problem concerned with Streptococcus carriers, and they hope in the near future to issue a new report on the subject.

The New Medical Faculty at Aabo.—As far back as 1642 there was a medical faculty at Aabo, which at that time was the capital of Finland. The town fell on evil days in 1827, when it was devastated by fire and robbed of its rank as the capital of Finland in favor of Helsingfors, which was henceforth to be the metropolis. On regaining her independence in 1917, the country experienced a revival, which in Aabo took the form of great academic activity. Finland is bilingual, with two widely different languages, Swedish and Finnish. In 1918 a Swedish-speaking university was founded in Aabo, with theological and other faculties, including a natural science faculty and a chemical-technical faculty. Two years later a rival university was founded for the benefit of Finnish-speaking students, who for the first time in the history of the country were enabled to pursue high school studies in their native tongue. The plan to create a medical faculty at this university was held in abeyance for several years for want of adequate financial support. In September, 1940, a government committee set to work to study the creation of a medical faculty centering about the new city hospital, which had been completed in 1938 and which now has more than 500 hospital beds.

On June 8, 1943, the new medical faculty of Aabo University came formally into being. As pointed out by Prof. O. Järvi, it enjoys to a certain extent the status, privileges, and independence of a university, but it must in the main be regarded as an institution under the state, which supports the whole of the faculty's budget with the exception of administrative expenses. In addition to the hospital already referred to, the faculty of medicine can draw on the town's fever hospital, maternity hospital, tuberculosis hospital, and mental hospital (which alone has 290 beds) for clinical and teaching material. The faculty has already its own pathology, bacteriology, and serology departments, and accommodation is being provided for the study of pharmacology, public health, and forensic medicine. The preliminary studies of biochemistry, physiology and anatomy must be pursued at the University of Helsingfors until Aabo can deal with these subjects also.

BRAZIL

Accidents in Children.—Drs. Orlano V. Orlandi and Elysio P. Almeida, of the Pediatrics Department of the Rio de Janeiro Policlinica Geral, prepared a report on the problem of accidents in children from 5 to 14 years in Rio de Janeiro. In the first part of the report the authors analyze the mortality from accidents, comparing the figures for the years 1931, 1941, and 1950; in the first two years, deaths from accidents occupied third place among the five most important causes of death in the age group 5 to 14 years, while in 1950 they reached first place among all the causes of death in the same group. This fact, however, does not express the real situation, because the mortality rate from accidents in that age group remained approximately the same (5.2 per hundred thousand in 1931, 5.8 in 1941, and 5.5 in 1950), while the rate for all other important causes of death declined during the period of time examined. Tuberculosis of the respiratory organs, which ranked first in 1931 with the rate of 6.4 per hundred thousand, declined to 3.8 in 1950; pneumonia and bronchopneumonia, which were the second cause in 1931, with 6.0, declined to 2.7 in 1950; and nephritis declined from 3.0 in 1931 to less than 1.0 in 1950.

The second part of the report is devoted to an analysis of the total 5,643 cases of accidents in children below 15 years of age attended in 1949 at the Carlos Chagas General Hospital, which serves the northwest peripheral district of the city, inhabited by people belonging to the middle and low economic segments of the population. The percentual age distribution of the patients between 0 and 14 years shows a rapid rise from 1.5% for children of less than 1 year, to 5.3% for those of 1 year, 7.0% for those of 2 years, and 8.0% for those of 3 years, and then a slow and regular decline to about 6.0% for those of 14 years. The distribution of the accidents according to the hour of the day shows that about 95% of them occur between 9 a. m. and 8 p. m., the peak of the distribution being between 3 and 7 p. m. The worst day of the week is Saturday, which shows an average of about 17 cases per day (daily average for the year 15.5 cases), as against a minimum of 14.3 for both Thursday and Friday. Sunday is more or less an average day. As for the kind of accident, fall is the most important one (37.5% of the cases), followed by accidents caused by cutting, bruising, and perforating objects (27.4%), biting by animals (16.3%), burns (5.2%), vehicle accidents (5.2%), foreign bodies (3.7%), and poisoning (0.9%). The distribution of the cases according to the kind of surgical lesions presented by the patients shows that sections, contusions, and bruises occupy first place (70.5%), followed by fractures (14.3%), burns (5.2%), dislocations and sprains (1.9%), and crushing and traumatic amputations (0.3%). The 3,064 cases of sections, contusions, and perforations were divided as follows: abdominal limbs 1,520 (677 of the sole of the foot), head and

V 14
1951

neck 1,013, thoracic limbs 426, and trunk 105. The animal bites were as follows: dog, 870; cat, 27; monkey, 14; and other animals, 11. According to the age of the children, the 51 cases of poisoning were divided as follows: 0-4 years, 45; 5-9 years, 2; and 10-14 years, 4. The ingested substances that caused the most cases of poisoning were kerosene and gasoline (21 cases), common medicines (16 cases), chlorine domestic solutions (6 cases), and furniture polishing preparations (2 cases).

Experimental South American Leishmaniasis.—All forms of human leishmaniasis are found in South America—the generalized or visceral infection (kala-azar), the localized form affecting the skin alone, and the localized form affecting concomitantly the skin and mucosa. The etiological agent of the first form, which is a disease with capricious geographic distribution, was named Leishmania chagasi by Da Cunha and Chagas, in 1937. The localized forms are considered the same disease, caused by L. braziliensis, which some authorities believe to be identical with L. tropica (Wright, 1903). F. Nery Guimarães, of the Oswaldo Cruz Institute, in 1947, reported the visceral infection produced by L. braziliensis in hamsters. In a new paper, the author reports the isolation of five more strains from different sections of Brazil, three of them from patients with mucocutaneous lesions (espundia), and all of them causing also generalized lesions in hamsters. In his latest experiments, Guimarães inoculated 61 hamsters with the six strains taken directly from the patients: 41 were inoculated intraperitoneally, of which 38 showed visceralization (92.7%), and 20 subcutaneously, of which 19 showed visceralization (95%). The visceralization in hamsters is principally found in the reticuloendothelial system, i. e., in spleen, liver, bone marrow, lymph nodes, but other organs were also parasitized: skin, testis (vaginal), intestines, lung, brain, striated muscles. With four of the above referred strains, the author produced visceral infections in white mice, although the lesions were not so extensive and severe as those provoked in hamsters by the same organism. No lesions were observed in the site of inoculation. The lesions obtained were indistinguishable from those attributed to L. donovani. Similarly, both black and agouti mice showed susceptibility to L. brasiliensis. Cotton rats showed only slight visceral infection. Dr. Guimarães believes that the evidence of visceralization of a strain of Leishmania taken directly from mucocutaneous lesions, although in experimental conditions, confirms the opinion of Hoare in the concept of the species of the protozoa of the genus Leishmania which, up to the present, have been differentiated on clinicoepidemiological bases.

Destruction of Schistosoma Cercariae by Soaps and Dyes.—The destruction of cercariae in water is one of the prophylactic measures to control schistosomiasis, since infestation is brought about by the contact of the skin with water containing larvae in their free-swimming stage. Drs. Genesio Pacheco and Geth Jansen, of the Oswaldo Cruz Institute, experimented with several substances to find the best means of achieving such destruction. They report that infested snails (Planorbis olivaceus) in the stage of eliminating Schistosoma mansoni cercariae were placed in tap water and exposed to sunlight in order to stimulate elimination. When there was a sufficient number of larvae to permit easy detection under the microscope, the substance to be tested was added and the alterations observed, the larvae being considered dead only when completely immobilized. The experiments were made under diffused daylight. In the first series of experiments, the authors tested sodium oleate and sodium ricinoleate in 10% solution, which caused complete immobilization after a period of time inversely proportional to the concentration (about 24 hours with a 1:1,000 solution and only 10 minutes with 1:50). Acridine orange and brilliant green were tested in the second series of experiments, the former dye immobilizing the larvae in 10 minutes with 1:50,000, and the latter after six minutes with 1:5,000. The third series of experiments was carried out with the association of a soap and a staining material, in order to ascertain whether this could increase the larvicidal action. In fact, the mixture of sodium oleate (10% solution) with acridine (1:1,000) increased the larvicidal activity enormously—the immobilization of the cercariae was obtained with the concentration of 1:500,000 after 10 minutes, and with the concentration of 1:2,000,000 after 17 minutes. The mixture is effective even if kept during 24 hours at the laboratory temperature, but the larvicidal properties are slightly reduced in the presence of organic matter as was verified by the addition of 20% of horse serum.

Murine Encephalomyelitis.—Many workers in several countries are studying virus diseases of animals as a means of advancing our knowledge about virus diseases of man. In Rio de Janeiro, Drs. A. Borges Fortes and Herminio Linhares, of the National Service of Mental Diseases, reported on a new series of studies on natural and experimental cases of murine encephalomyelitis and described some important pathologic features. They observed an extensive acute and subacute inflammatory process, chiefly of the leptomeninges, the choroid plexuses, and the encephalic axis, characterized by infiltration of round cells, with a diffuse perivasculitis and some granulomas. Considerable exudation in the lateral ventricles in the inoculated animals was also noticed. Evident inflammatory phenomena followed by degeneration and atrophy of substantia grisea of the spinal cord were also observed, more noticeable on the anterior cornu. The encephalic lesions found in mice, principally those of the experimental form of Theiler's encephalomyelitis, are similar to those of acute lymphocytic choriomeningitis in man. The observed lesions of the spinal cord in this murine disease are similar to those which have been described in acute anterior poliomyelitis in man.

ARGENTINA

Congress on Cancer.—The first Argentine Congress on Cancer was held in Buenos Aires, September 24-27, under the presidency of Dr. Abel Canonico and sponsored by the Ministry of Public Health. It was attended by specialists from the United States, Chile, Uruguay, Paraguay, Bolivia, and Spain, who had been invited by the Argentine government. Several communications were presented, and there were surgical demonstrations.

From September 26 to 29 the first National Conference on Cancer was held organized by the Ministry of Public Health, which established a unified and coordinated plan against cancer in the Argentine republic. A commission of pathologists was also appointed for the task of establishing uniformity in nomenclature of tumors and the diseases associated with this development. Improvement of present knowledge on cancer through postgraduate courses was recommended to stimulate investigations and organize an extensive sanitary campaign all over the country.

Pulmonary Tuberculosis Mortality Rate.—In 1918 there were in Argentina 15,149 deaths due to pulmonary tuberculosis. This was the highest rate reported; the rate remained high until 1938 and then decreased progressively to 1948. During 1948 there were only 9,470 deaths due to this disease.

In 1918 there were 174 deaths per 100,000 persons. In 1948 there were only 57 deaths per 100,000 persons. The general mortality rate reached its maximum in 1919 (17.5 deaths per 100,000 persons). In 1948 the death rate was 9.9. In Buenos Aires this reduction was greater. The death rate in 1918 was 245 per 100,000 persons.

Spiritualism.—Spiritualism has never been officially approved and has not been allowed as a therapeutic measure. Recently physicians were surprised by an announcement of the Ministry of Public Health in which it was established that the Division of Social Psychopathology must register the member societies of the Argentine Association of Spiritualists and accept them. A monthly report of members, mediums, associates, and meetings must be forwarded. Persons acting as mediums should have a certificate of technical ability granted by the Division of Social Psychopathology of the Ministry of Public Health after a psychologic, metapsychologic, and psychiatric examination.

Malaria Control.—After the employment of 102 tons of DDT and 2,000 tons of kerosene (as solvent) malaria practically disappeared in the zones of the country in which this disease was endemic. Up to 1947, there were about 300,000 cases of malaria per year, according to the report by Dr. Carlos A. Alvarado in the first Argentine Epidemiological Meetings. After three years of prophylaxis, only 653 cases were observed in 1950, with no cases of first infection. Eighty-four teams (500 persons) carried out the task of spraying DDT and kerosene in 170,000 buildings. Dr. Alvarado claimed that malaria was now neither a social nor a sanitary problem in the northern Argentina.

CORRESPONDENCE

MEDICAL-LEGAL ASPECTS OF ARTIFICIAL INSEMINATION

To the Editor:—I was greatly interested in your extensive review of the medicolegal aspects of artificial insemination. However, I was disappointed to see no reference made to the fact that the Medical Jurisprudence Society of New York City had discussed the medicolegal aspects of this subject on March 13, 1944, and again on Feb. 9, 1948. The latter was published in *Human Fertility* (13:37 [June] 1948). The former presentation is appearing in the proceedings of the Medical Jurisprudence Society shortly to be published by Charles C Thomas, Publisher. By invitation, I presented the subject on both occasions.

I must disagree with certain provisions of the consent form of L. J. Regan in THE JOURNAL (147:253 [Sept. 15] 1951), namely: "Nor any other information concerning said donor's race, nationality, characteristics, qualities, or any other information whatsoever concerning said donor." I believe that a couple have the right to know the nationality, race, characteristics, education, and religion of the donor if they request such information.

I believe that it would be very impractical for a physician to destroy confidential records regarding a donor and the patient treated, and I cannot agree with the paragraph: "We further agree that following the said insemination the said Dr. . . . shall destroy all information and records which he may have as to the identity of said donor it being the intention of all parties that the identity of said donor shall be and forever remain anonymous." My reason for insisting that it is advisable to keep such records is to assure whenever possible the same donor for second or third requests for artificial insemination. In my series of 200 patients treated by donor artificial insemination, 36% requested a second pregnancy and 5% requested a third pregnancy. The patients have always requested the same donor if possible. The reason is self-evident. Furthermore, as mentioned in your article, the Sanitary Code of New York City demands that records of the donor be kept.

I should like to plead for physicians to avoid the use of so-called semen donor services from laboratories which furnish semen on demand from sources unknown to the physician. This practice should be declared illegal, as the hereditary background, physical appearance, nationality, religion, education, and complexion cannot be satisfactorily matched by such a method. Finally, many physicians are unaware of the Rh factor of the donor and may make use of an Rh positive donor's semen to impregnate an Rh negative woman.

MARIE PICHEL WARNER, M.D.
20 West 86th St., New York 24.

The above letter was referred to the author of the article, who has written as follows:

To the Editor:—The difficulty inherent in the production of the suggested form, or of any form purporting to authorize artificial insemination, is obvious, since there is a total lack of statutory law and, practically, of case law. The terms of any such form are evidently subject to criticism, since, at best, they rest on opinion.

With its present unestablished legal status, even if not specifically contrary to law, the practice of artificial insemination with a donor other than the husband is hazardous to the physician who performs it—hazardous because of the possibility of involvement in litigation.

Inherent in the problem, there are at this time many undetermined factors, among them questions of inheritance, support, right of control, adultery, rights of the donor's spouse, and standards of care respecting selection and fitness of donor. The provision of the Sanitary Code of the City of New York referred to is essentially a public health regulation requiring that certain examinations be made of donors.

The suggested form might, although it is not claimed that it will, afford some protection to a physician who makes use of it. A portion of its protective potential would, in my opinion, be lost if it is modified as suggested by Dr. Warner.

LOUIS J. REGAN, M.D.
1925 Wilshire Blvd., Los Angeles 5.

N.P.C. GIFT TO EDUCATION FOUNDATION

Elmer L. Henderson, M.D.
Office of the President
American Medical Education Foundation
535 North Dearborn Street
Chicago, Illinois

Dear Dr. Henderson:

The members of the Board of Trustees of N.P.C., meeting in Atlantic City on June 10th—all members present, voted to place at the disposal of the American Medical Education Foundation the residue of funds in the treasury of the National Physicians Committee. This residue was to result from the payment of all obligations and certain other commitments made by the Board. After all payments were made there was a balance of $11,222.94. A check in this amount is attached.

During the later years of the operation of N.P.C. you were thoroughly familiar with its aims, purposes and its operation. Without detracting in any way from subsequent actions we think it can be safely said that the continuous aggressive and unremitting efforts of the N.P.C., over a period of nearly ten years, made possible preserving the independence of the profession during a period of stress. These activities made acceptable the subsequent assessment on the entire membership which, in turn, led to more comprehensive efforts and more determined resistance.

You personally are thoroughly familiar with the incidents and circumstances that led the Board of Trustees of the N.P.C. to the decision to remove itself from the field of operations and to liquidate its assets. We, speaking for the Board of Trustees of the N.P.C., are pleased that we were able, in a time of emergency, to render valuable aid and that its operations were so conducted as to make possible placing at your disposal the contribution enclosed herewith. Legal requirements involved in the final dissolution of the National Physicians Committee precluded the possibility of earlier presentation of this contribution.

NATIONAL PHYSICIANS COMMITTEE FOR E.M.S.
EDWARD H. CARY, Dallas, Chairman
WILLIAM F. BRAASCH, Secretary
Rochester, Minn.

ECTOPIC URETER

To the Editor:—In answer to a plea in THE JOURNAL (130:1063 [April 20] 1946) for awareness of the possibility of ectopic ureter in cases of urinary incontinence, I am reporting the first case of this condition diagnosed in Brazil. The patient, a 20-year-old woman, had a supernumerary left ureter opening into the vestibule. Heminephrectomy resulted in a cure. Details of the case were described in *The Journal of the International College of Surgeons* (15:715 [June] 1951).

E. V. CANNABRAVA
Rua Cesareo Motta, 112
São Paulo, Brazil.

V 14
1951

Postgraduate Continuation Courses for Physicians

Compiled by the Council on Medical Education and Hospitals for the Period Jan. 1, 1952 to July 15, 1952

Table of Contents

Subject	Page	Subject	Page	Subject	Page
Allergy	1471	Geriatrics	1476	Pediatrics	1484
Anatomy	1471	Hematology	1476	Pharmacology	1485
Anesthesiology	1472	Histology	1476	Physical Medicine	1485
Arthritis	1472	Industrial Health	1476	Physiology	1485
Bacteriology	1472	Internal Medicine	1476	Plastic Surgery	1485
Basic Science	1473	Malignant Disease	1477	Poliomyelitis	1485
Biochemistry	1473	Medicine, General	1477	Proctology	1485
Cardiovascular Disease	1473	Neurology & Psychiatry	1479	Public Health	1486
Dermatology & Syphilology	1474	Nuclear Science	1480	Pulmonary Diseases	1486
Diabetes	1474	Nutrition	1480	Radiology	1486
Electrocardiography	1474	Obstetrics and Gynecology	1480	Surgery	1487
Endocrinology	1475	Oncology	1481	Therapy	1489
Endoscopy	1475	Ophthalmology & Otolaryngology	1481	Tropical Medicine	1489
Fractures	1475	Orthopedic Surgery	1483	Urology	1489
Gastroenterology	1475	Pathology	1483	Venereal Disease	1489

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	ALLERGY		
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Six Month Personal Course in Allergy	By appointment, 1st of every month	$500.00
	One Month Personal Course in Allergy	By appointment, 1st of every month	200.00
	One Month Personal Course in Allergy and Related Conditions	By appointment, 1st of every month	200.00
	Personal Course in Allergy and Related Conditions	April 9, 10 sessions, part time	125.00
University of Michigan Medical School, Ann Arbor, Mich. At: University Hospital	Allergy	May 5-9, full time	50.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: Receiving Hospital	Allergy Clinic and Conference	March, part time	25.00
American College of Allergists, 401 LaSalle Medical Bldg., Minneapolis 2, Minn. At: Hotel William Penn, Pittsburgh, Pa.	Graduate Instructional Course in Allergy	April 4-6, full time	35.00
	Eighth Annual Congress American College of Allergists	April 7-9, full time	None
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Allergy and Hematology for General Physicians	May 15-17, full time	25.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Allergy (Medicine PM 36)	February 25-March 17, part time	40.00
At: Roosevelt Hospital	Allergy (Medicine PM 80)	May 12-23, full time	120.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Kings County Hospital	Allergy	April, 9 weeks, part time	20.00
At: Beth El Hospital	Allergy	April, 9 weeks, part time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Allergy	Arranged, 2 months, part time	50.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: University Hospital	543-A Allergy	April 18-June 6, part time	35.00
	5415-B Allergy	March 17-28, full time	150.00
American College of Physicians, 4200 Pine St., Philadelphia, Pa. At: Washington University School of Medicine	Allergy	March 3-7, full time	30.00 A.C.P. mbrs. 60.00 non mbrs.
	ANATOMY		
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: Scott House and Evans Hall	Surgical Anatomy — Demonstration and Lectures — Thorax, Abdomen and Pelvis	January 16-April 9, part time	50.00
	Surgical Anatomy — Demonstration and Lectures — Head and Neck	April 16-June 4, part time	35.00
	Surgical Anatomy—Dissection, Demonstration and Lectures—Thorax, Abdomen, and Pelvis	January 14-April 9, part time	125.00
	Surgical Anatomy—Dissection, Demonstration and Lectures — Head and Neck	April 14-June 4, part time	75.00
University of California School of Medicine, University Extension, 10845 Le Conte Ave., Los Angeles 24, Calif.	Surgical Anatomy	February 13, 15 weeks, part time	75.00
University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 20, Colo.	Surgical Anatomy	March 24-June 9, part time	41.00 for residents 95.00 for non-residents
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Anatomy of the Extremities of the Cadaver	March 12, 10 sessions, part time	125.00
University of Maryland School of Medicine, 29 S. Greene St., Baltimore 1, Md.	General Anatomy	Arranged, full or part time during academic year	Arranged
	Surgical Anatomy	Last week in January, 15 weeks, part time	150.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass.	Surgical Anatomy	March 3-April 25, part time	200.00 ◆
University of Michigan Medical School, Ann Arbor, Mich.	Neuro-anatomy	June 2-21, full time	100.00 ◆
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Anatomy	February 14-May 29, part time	65.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J. At: Newark City Hospital	Regional Anatomy	March 10-June 7, part time	50.00
	Surgical Anatomy of the Chest	12 weeks, part time	150.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	ANATOMY—Continued		
Cornell University Medical College, 1300 York Ave., New York 21, N. Y.	Surgical Anatomy	June 1-30, full time	$200.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Applied Anatomy for the General Surgeon	Arranged, part time	375.00
	Anatomy of the Thorax	Arranged, part time	150.00
	Anatomy of the Abdomen	Arranged, part time	150.00
	Applied Anatomy for the Otolaryngologist	Arranged, part time	275.00
	Applied Anatomy of the Urogenital System	Arranged, part time	300.00
	Applied Anatomy for the Anesthetist	Arranged, part time	275.00
	Anatomy for the Orthopedic Surgeon	Arranged, part time	150.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Surgical Anatomy	Arranged, 2 weeks, part time	150.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.	411-B Anatomy of the Head and Neck	March 24-June 13, part time	90.00
	413-C Anatomy of the Abdomen	March 24-June 13, part time	90.00
	414-B Anatomy of the Female Pelvis	March 24-June 13, part time	90.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4, Pa.	The Hand	July 16-27, full time	200.00
	ANESTHESIOLOGY		
University of Arkansas, Office of Postgraduate Medicine, Little Rock, Ark.	Postgraduate Course in Anesthesiology	April 3, 1 day	10.00
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: White Memorial Hospital	Anesthesiology	Every two months, full time	300.00
St. Francis Hospital, 114 Woodland St., Hartford 5, Conn.	Anesthesiology	Continuously	None
	Anesthesiology	February 15, 6 months	Arranged
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Practical Two Week Course in Spinal and Intravenous Anesthesia	By appointment, every two weeks	150.00
	Practical One Month Course in Nitrous Oxide and Ether Anesthesia	By appointment, 1st of every month	125.00
	Practical One Month Course in Ether, Nitrous Oxide, Ethylene and Cyclopropane Anesthesia	By appointment, 1st of every month	200.00
	Practical Two Week Course in Endotracheal Anesthesia	By appointment, every two weeks	150.00
University of Kansas Medical Center, Kansas City, Kan.[1]	Anesthesiology	April 14-16, full time	20.00
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Review in Anesthesia	Arranged, full time	50.00
Boston University School of Medicine, 80 E. Concord St., Boston, Mass. At: Massachusetts Memorial Hospitals	Postgraduate Course in Clinical Anesthesiology [2]	Arranged, 3 months, full time	None
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Anesthesiology for General Physicians	March 24-26, full time	25.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J. At: Newark City Hospital	Therapeutic and Diagnostic Nerve Blocking	February 6, 10 weeks, part time	100.00
New York State Society of Anesthesiologists, 137 W. 11th St., New York 11, N. Y. At: Various Centers throughout the State	Postgraduate Training in Anesthesia	Continuously, hours arranged	None
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Jewish Hospital	Anesthesiology	April, 6 weeks, part time	30.00
At: St. Catherine's and Kings County Hospitals	Diagnostic and Therapeutic Nerve Blocking (Fundamental Course)	April, 10 weeks, part time	75.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Clinical Anesthesiology	Arranged, 3 months, full time	200.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Applied Anesthesia	January and April, 3 months, full time	300.00
	Anesthetic Technic	January and April, 6 weeks, full time	100.00
	Regional and Spinal Anesthesia	January and April, 6 weeks, full time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: Bellevue Hospital	512-C Regional Anesthesiology	May 5-16, full time	200.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4, Pa. At: Graduate Hospital and Private Offices	Regional Anesthesia and Anatomy	May 26-June 6, full time	200.00
	Segmental Neuralgias, Relief by Regional Anesthesia	Arranged, 3 weeks, part time	200.00
	ARTHRITIS		
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Arthritis and Allied Rheumatic Diseases	April 4, 10 sessions, part time	100.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Kings County Hospital	Arthritis	April, 8 weeks, part time	30.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: Bellevue and University Hospitals	542-A Arthritis and Allied Rheumatic Disorders	April 15-June 3, part time	50.00
	BACTERIOLOGY		
University of California School of Medicine, San Francisco 22, Calif.	Microscopy and Photomicrography	January 17-June 5, part time	Not given
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Review of Microbiology (Bacteriology) a Basic Course	March 13, 5 sessions, part time	75.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Microbiology Seminar	Quarterly, part time	15.00
	Parasitology and Medical entomology	March 10-June 7	Not given
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Bacteriology	Arranged, 3 months, part time	100.00
	Immunology	Arranged, 6 weeks, part time	50.00
	Parasitology	Arranged, 6 weeks, part time	75.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.	432-A Viruses and Virus Diseases	March 31-June 6, full time	211.00

References will be found on page 1489.

V 14
1951

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	BASIC SCIENCE		
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33, Calif.	Basic Science Course in Internal Medicine [3]	September 29, 1952 through June 5, 1953, full time	$800.00
	Basic Science Course in Otolaryngology [3]	September 29, 1952 through June 5, 1953, full time	800.00
Northwestern University Medical School, 303 E. Chicago Ave., Chicago 11, Ill.	Orthopaedic Pathology, Anatomy, Physiology and Biochemistry	January-June, full time	600.00
University of Michigan Medical School, Ann Arbor, Mich.	Basic Science [4]	October, 1952, 9 months, full time	710.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.			Surgery 910.00
At: Medical School and University Hospital	Basic Science Course		
	Bacteriology	January 7-12	Not given
	Developmental Anatomy	January 14-19	
	Biophysics	January 21-February 2	
	Endocrinology	February 4-16	
	Biochemistry, Pharmacology, Physiology	February 18-June 7	
	Surgery	February 18-April 12	
	Anatomy	April 14-June 7	
University of South Dakota School of Medicine, Vermillion, S. D.	Basic Science for Candidates for Specialty Boards	February 4-June 6, 1 to 2 semesters	75.00
Southwestern Medical School of the University of Texas, 2211 Oak Lawn Ave., Dallas, Texas	Basic Science	Arranged, 36 sessions	None
	BIOCHEMISTRY		
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Physiological Chemistry Seminar	Quarterly, part time	15.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Jewish Hospital	Clinical Biochemistry	April, 10 weeks, part time	30.00
	CARDIOVASCULAR DISEASE		
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: Osler House	Cardiology	January 8-March 11, part time	50.00
University of California School of Medicine, San Francisco 22, Calif. At: University of California Hospital	Cardiovascular Diseases	April 28-May 3, part time	Not given
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Personal Course in Cardiovascular Diseases	April 9, 10 sessions, part time	80.00
Indiana University School of Medicine, Indianapolis, Ind.[5]	Annual Symposium on the Heart	February 5, 1 day	None
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Review in Cardiology	Arranged, 2 weeks, full time	100.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass. At: Beth Israel Hospital	Cardiology 1	January 28-May 10, full time	500.00 [6]
At: Peter Bent Brigham Hospital	Clinical Heart Disease	July 1-31, full time	200.00 [6]
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Cardiology	March 17-21, full time	40.00 [6]
University of Michigan Medical School, Ann Arbor, Mich. At: University Hospital	Diseases of the Heart	March 17-22, full time	50.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.[7]	Cardiovascular Diseases for General Physicians	February 14-16, full time	25.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J. At: Seton Hall University Campus	Cardiac Arrythmias	February 4, 10 weeks, part time	75.00
At: Newark City Hospital	Clinical Cardiology	March 7, 10 weeks, part time	100.00
St. Francis Sanatorium for Cardiac Children, Roslyn, N. Y.	Comprehensive Postgraduate Course in Rheumatic Fever and Rheumatic Heart Disease	May 19-30, 10 days, full time	100.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Cardiovascular Diseases (Medicine PM 31)	January 25-March 22, part time	125.00
	Clinical Cardiology (Medicine PM 29)	February 6-April 19, part time	45.00
	Bedside Clinics in Heart Disease (Medicine PM 46)	February 18-April 7, part time	30.00
	Bedside Diagnosis and Treatment of Heart Disease with Special Emphasis on Measurements of the Circulatory Dynamics (Medicine PM 48)	February 19-April 22, part time	45.00
At: Montefiore Hospital	Cardiology II (Medicine PM 62)	January 29-June 3, part time	150.00
	Cardiology III (Medicine PM 63)	February 12-June 3, part time	200.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Cardiology	Arranged, 20 weeks, part time	150.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Coney Island Hospital	Cardiovascular Disease	April, 6 weeks, part time	20.00
At: Jewish Sanitarium and Hospital for Chronic Disease	Clinical Ballistocardiography	April, 8 weeks, part time	20.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Diagnosis and Treatment of Diseases of the Heart	Arranged, 3 weeks, part time	75.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: University Hospital	544-A Cardiology	April 17-June 5, part time	40.00
At: Bellevue and University Hospitals	5425-A Cardiology	June 30-July 25, full time	250.00
	5427-A Auscultation of the Heart	February 18-20, full time	35.00
Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N. C.	Cardiovascular Diseases	March 25-27, full time	..... [37]
The Cleveland Area Heart Society, 417 Public Square Bldg., Cleveland 13, Ohio At: Western Reserve University Medical School	The Cardiac Resuscitation Course	Jan. 18-19, Feb. 15-16, March 14-15, April 18-19, May 23-24, June 20-21	40.00 [8]
University of Pennsylvania Graduate School of Medicine, Philadelphia 4, Pa.	Cardiology	January and April, part time, 8 weeks	80.00
Meharry Medical College, Nashville, Tenn.	Refresher Course in Cardiovascular Disease	May 5-9, full time	30.00
University of Vermont College of Medicine, Burlington, Vt.	Auscultation of the Heart and Phonocardiography	Arranged, 10 hours	3.00
	Modern Aspects of Cardiovascular Disease and Treatment Seminar	Arranged, 10 hours	None

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
DERMATOLOGY AND SYPHILOLOGY			
College of Medical Evangelists, 312 N. Boyle Ave., Los Angeles 33, Calif. At: Osler House	Dermatology	January 2-March 19, part time	$40.00
University of California School of Medicine, San Francisco 22, Calif. At: University of California Hospital	Clinical Science as Applied to General Medicine: Part IV—Dermatology	February 7-April 24, part time	No fee
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Twelve Month Clinical Course in Dermatology	By appointment, full time	1,000.00
	Two Week Intensive Course in Dermatology	May 5, full time	100.00
	Clinical Refresher Course in Dermatology	Every Monday, 2 weeks or more, full time	75.00 for 2 weeks 125.00 for 4 weeks
Michael Reese Hospital Postgraduate School, 29th St. and Ellis Ave., Chicago 16, Ill.	Personal Course in Dermatology	April 3, 10 sessions, part time	100.00
	Clinical Dermatology, Refresher Course in Diseases of the Skin for the General Practitioner	April, 1 week, full time	50.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass. At: Massachusetts General Hospital	Dermatology and Syphilology 2	Arranged, 1-9 months, full time	600.00 for 9 months [a]
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Dermatology II	April 7-11, full time	40.00 [a]
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: Receiving Hospital	Seminar in Dermopathology	Quarterly, part time	15.00
	Seminar in Dermatology	Quarterly, part time	15.00
	Deep Mycoses	March, 12 weeks, part time	30.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Dermatology for General Physicians	February 28-March 1, full time	25.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J. At: Newark City Hospital	Dermatology	January 17, 12 weeks, part time	65.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Montefiore Hospital	Common Skin Diseases and Treatment (Dermatology PM 60A)	March 3-May 26, part time	50.00
At: Mt. Sinai Hospital	Venereal and Skin Diseases (Dermatology PM 30)	March 12, 17 and 19, part time	30.00
	Venereal and Skin Diseases (Dermatology PM 32)	May 13-23, part time	30.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Kings County Hospital	Dermatology for the General Practitioner	April, 8 weeks, part time	20.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Dermatology and Syphilology for the General Practitioner (Seminar)	Arranged, 5 days, full time	75.00
	Dermatology and Syphilology for Specialists (Seminar)	Arranged, 5 days, full time	75.00
	Dermatologic Histopathology (Seminar)	Arranged, 5 days, full time	75.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: Skin and Cancer Unit University Hospital	523-A Symposium on Dermatology and Syphilology (for Dermatologists)	May 19-23, full time	75.00
	482-A Occupational Dermatoses	January 28-February 8, part time	50.00
University of Texas Postgraduate School of Medicine, 207-A Hermann Professional Bldg., Houston, Texas At: Robert B. Green Memorial Hospital	Dermatology	January 8-April 1, part time	10.00
DIABETES			
Delaware Academy of General Practice, Education Committee, 1305 New Road, Wilmington 5, Del. At: Veterans Administration Hospital, Wilmington	Diabetes and Associated Metabolic Disorders	January 9, 10 weeks, part time	60.00 plus $5.00 registration fee for non mbrs. A.A.G.P.
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Personal Course in Medical and Surgical Diabetes	March 19, 10 sessions, part time	100.00
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Diabetes	March 10-12, full time	30.00 [a]
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Course in Nutrition and Diabetes (Medicine PM 38)	March 6-20, part time	40.00
ELECTROCARDIOGRAPHY			
University of California School of Medicine, San Francisco 22, Calif. At: University of California Hospital	Electrocardiography	April 28-May 3, full time	Not given
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Personal Course in Electrocardiography and Heart Disease	February 13, 10 sessions, part time	125.00
	Two Week Personal Course in Electrocardiography and Heart Disease	March 17, July 14, full time	150.00
Michael Reese Hospital Postgraduate School, 29th St. and Ellis Ave., Chicago 16, Ill.	Electrocardiographic Interpretation	February 6-April 23, part time	50.00
Indiana University School of Medicine, Indianapolis, Ind.	Course in Electrocardiography	February 14-15, full time	25.00
University of Kansas Medical Center, Kansas City, Kan.	Electrocardiography	March 10-15, full time	50.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Electrocardiography for General Physicians	January 21-25, full time	40.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Intensive Course in Advanced Electrocardiography (Medicine PM 42)	January 14-19, full time	60.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Jewish Sanitarium and Hospital for Chronic Diseases	Advanced Cardiology and Electrocardiography	April, 8 weeks, part time	20.00
At: Beth El Hospital	Basic Electrocardiography	April, 6 weeks, part time	20.00
At: Jewish Hospital	Electrocardiography for the General Practitioner	April, 6 weeks, part time	30.00

References will be found on page 1489.

V 14
1951

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	ELECTROCARDIOGRAPHY—Continued		
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Electrocardiography	Spring, 2 weeks, part time	$100.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Electrocardiographic Interpretation	Arranged, 2 weeks, part time	75.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: University Hospital	544-B Clinical Electrocardiography	April 17-June 5, part time	40.00
	5423-B Electrocardiography	March 24-28, full time	50.00
University of Oklahoma School of Medicine, Oklahoma City, Okla.	Electrocardiography	March 3-8, full time	60.00
University of Oregon Medical School, 3181 S. W. Sam Jackson Park Rd., Portland 1, Ore.	Electrocardiography	May 19-23, full time	50.00
University of Vermont College of Medicine, Burlington, Vt.	Electrocardiography	Arranged, 20 hours, part time	5.00
	ENDOCRINOLOGY		
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif.			
At: Los Angeles County Hospital	Endocrinology	April 1-May 20, part time	30.00
University of California School of Medicine, San Francisco 22, Calif.			
At: University of California Hospital	Clinical Endocrinology and Metabolic Diseases including the Non-Endocrine Application of Endocrine Substances	January 28-February 1, full time	Not given
Medical College of Georgia, Augusta, Ga.	Eighth Postgraduate Course in Endocrinology	May 26-31, full time	60.00
Michael Reese Hospital Postgraduate Medical School, 29th St. and Ellis Ave., Chicago 16, Ill.	Diseases of the Endocrines, Physiology and Diagnostic Methods	May or June, 2 weeks, full time	100.00
University of Michigan Medical School, Ann Arbor, Mich.			
At: University Hospital	Metabolism and Endocrinology	March 31-April 4, full time	50.00
University of Mississippi School of Medicine, University, Miss.	Chemistry of Enzymology	By appointment, 18 weeks, part time	Not given
	Biochemistry of Hormones	By appointment, part time	55.00
	Biochemistry of Steroids	By appointment, 18 weeks, part time	Not given
Essex County Medical Society, 38-40 Clinton St., Newark, N. J.			
At: Seton Hall University Campus, South Orange	Endocrinology	January 7, 6 weeks, part time	40.00
Columbia University, 630 W. 168th St., New York 32, N. Y.			
At: Mt. Sinai Hospital	Endocrinological Diseases (Medicine PM 39)	January 24-February 14, part time	30.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: Jewish Hospital	Disorders of the Endocrine System	April, 6 weeks, part time	40.00
At: Jewish Sanitarium and Hospital for Chronic Diseases	Medical and Gynecologic Endocrinology	April, 4 weeks, part time	20.00
At: Maimonides Hospital	Metabolic Endocrinology	April, 10 weeks, part time	30.00
At: Beth El Hospital	Endocrine Disorders in Children and Adolescents	April, 8 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Endocrinology	Spring, 2 weeks, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: University Hospital	549-A Endocrinology	April 18-June 6, part time	40.00
University of Vermont College of Medicine, Burlington, Vt.			
At: Bishop DeGoesbriand Hospital	Endocrine Disease and Therapy	Arranged, 10 hours	None
	ENDOSCOPY		
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Ten Day Practical Course in Cystoscopy	Jan. 7, 21, Feb. 4, 18, March 3, 17, 31, April 14, May 12, 26, June 9, full time	150.00
University of Illinois College of Medicine, 1853 W. Polk St., Chicago, Ill.	Bronchoesophagology	February and May, 2 weeks, full time	150.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass.			
At: Massachusetts General Hospital	Endoscopy	Arranged, 3 months, full time	375.00 *
Columbia University, 630 W. 168th St., New York 32, N. Y.			
At: Columbia Presbyterian Medical Center	Gastroscopy (Medicine PM 2)	Arranged, 2 months, part time	250.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: Greenpoint Hospital	Gastroscopy	April, 6 weeks, part time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Gastroscopy	Arranged, 2 weeks, part time	200.00
	Gastroscopy (Advanced)	Arranged, 5 weeks, part time	200.00
	Peritoneoscopy	Arranged	100.00
Temple University Medical School, 3400 N. Broad St., Philadelphia 40, Pa.	Bronchoesophagology	February 11-22, full time	250.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4, Pa.	Bronchoesophagology, Gastroscopy and Laryngeal Surgery	Middle two weeks of January and first two weeks of June, full time	250.00
	FRACTURES		
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Clinical Course in Fractures	1st of every week, 1 or 2 weeks, full time	50.00 1 week 100.00 2 weeks
	Special Course in Fractures	March 19, 10 sessions, part time	125.00
	Two Week Intensive Course in Fractures and Traumatic Surgery	February 4, June 16, full time	125.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: Kings County Hospital	Fractures	April, 10 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Fractures and Allied Trauma	Spring, 4 weeks, full time	200.00
	GASTROENTEROLOGY		
University of Southern California, Division of Medical Extension Education, 1200 N. State St., Los Angeles 33, Calif.			
At: San Diego, Calif.	Modern Trends in Gastroenterology	January 4-February 8, part time	50.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Personal Course in Gastroenterology	March 26, 10 sessions, part time	100.00
	Two Week Course in Gastroenterology	May 19, full time	100.00
	Advanced Course in Gastroscopy and Gastroenterology	March 10, June 23, 1 week, full time	Not given
University of Michigan Medical School, Ann Arbor, Mich.			
At: University Hospital	Diseases of Gastro-Intestinal Tract	April 14-18, full time	50.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
GASTROENTEROLOGY—Continued			
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: Receiving Hospital	Gastroenterology	Quarterly, 12 weeks, part time	$15.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Gastrointestinal Diseases (Medicine PM 32)	January 23-March 12, part time	80.00
	Intensive Course in Gastroenterology (Medicine PM 45)	March 31-April 4, part time	60.00
At: Montefiore Hospital	Gastroenterology (Medicine PM 70)	February 5-May 20, part time	75.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Jewish Sanitarium and Hospital for Chronic Diseases	Gastroenterology	April, 6 weeks, part time	20.00
	Gastroenterology	April 5½ weeks, part time	20.00
At: Jewish Hospital	Diarrheal Diseases	April, 10 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Gastroenterology	Spring, 1 month, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: University Hospital	5421-B Gastroenterology	June 16-27, full time	85.00
	5411-A Gastroenterology	April 16-June 4, part time	40.00
GERIATRICS			
University of Kansas Medical Center, Kansas City, Kan.[3]	Geriatrics	March 24-26, full time	20.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Geriatrics (Medicine PM 47)	February 7-May 22, part time	65.00
HEMATOLOGY			
Yale University School of Medicine, 333 Cedar St., New Haven 11, Conn.[9] At: Hartford Hospital	Medicine 208, Hematology	April 4-May 9, part time	25.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	One Week Personal Course in Hematology	June 16, full time	100.00
	Personal Course in Hematology	March 26, 10 sessions, part time	100.00
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Hematology I	February 11-15, full time	40.00 *
University of Michigan Medical School, Ann Arbor, Mich. At: University Hospital	Diseases of Blood and Blood Forming Organs	April 7-11, full time	50.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: Receiving Hospital	Clinical Hematology	Quarterly, 12 weeks, part time	15.00
	Hematology Clinic	Quarterly, 12 weeks, part time	15.00
Council of Rochester Regional Hospitals, 133 East Ave., Rochester 4, N. Y. At: The Rochester Academy of Medicine, Bath V. A. Hospital and Geneva, N. Y.	Hematology Round Table	Spring, 5 hours, part time	None
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Hematology (Medicine PM 35)	January 22-March 18, part time	60.00
	Clinical Hematology (Medicine PM 66)	February 12-June 17, part time	75.00
At: Montefiore Hospital	Advanced Hematology (Medicine PM 67)	February 19-May 27, part time	75.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Jewish Hospital	Clinical Hematology	April, 8 weeks, part time	20.00
	Hematology	Arranged, 2 months, part time	50.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.			
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: Bellevue and University Hospitals	546-B Clinical Hematology	April 14-June 2, part time	40.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4, Pa. At: Bryn Mawr Hospital	Clinical and Laboratory Hematology	February and April, 6 weeks, part time	200.00
HISTOLOGY			
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Histology	Arranged, 5 weeks, full time	300.00
INDUSTRIAL HEALTH			
Connecticut State Medical Society, P. O. Box 1438, New Haven, Conn.	Industrial Health Conference	Spring, 1 day	None
Harvard School of Public Health, 55 Shattuck St., Boston, Mass.	Industrial Health	February 4-March 29, full time	225.00
University of Cincinnati College of Medicine, Institute of Industrial Health, Eden and Bethesda Ave., Cincinnati 19, Ohio [10]	Industrial Medicine	July 1, 12 months, full time	400.00
INTERNAL MEDICINE			
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: Osler House	Differential Diagnosis of Internal Diseases	January 8-March 25, part time	50.00
George Washington University School of Medicine, 1335 H St., N. W., Washington, D. C. At: The George Washington University Hospital	Internal Medicine	January 3-April 10, part time	75.00
Emory University School of Medicine, 36 Butler St., S. E., Atlanta 3, Ga. At: Grady Memorial Hospital	General Internal Medicine	Arranged, 2 weeks to 12 months	125.00 per quarter 12.00 per week
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Two Week Intensive Course in Internal Medicine	May 5, full time	75.00
Michael Reese Hospital Postgraduate Medical School, 29th St. and Ellis Ave., Chicago 16, Ill.	Recent Advances in Internal Medicine	May, 2 weeks, full time	50.00 per week
	Practical Approach to Peripheral Vascular Disorders	January or February, 12 weeks, part time	50.00
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Review in Internal Medicine	March 24-28, full time	50.00

References will be found on page 1489.

V 14
1951

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
INTERNAL MEDICINE—Continued			
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass. At: Massachusetts General Hospital	Internal Medicine 3	June 16-July 25, full time	$250.00 [9]
University of Michigan Medical School, Ann Arbor, Mich. At: University Hospital	Recent Advances in Therapeutics Clinical Internal Medicine	April 28-30, full time October 4-April 17, part time [11]	25.00 65.00 for the year
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Symposium on Internal Medicine (Medicine PM 30) Diseases of the Liver (Medicine PM 33) Diseases of the Kidneys (Medicine PM 34) Diagnosis and Treatment of Ambulatory Patients (Medicine PM 49)	January 21-March 22, full time January 21-February 4, part time February 11-25, part time February 6-April 11, part time	350.00 35.00 35.00 30.00
At: Montefiore Hospital	Neoplastic Diseases (Medicine PM 72)	February 5-June 3, part time	150.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Kings County Hospital	Recent Advances in Internal Medicine Internal Medicine	April, 12 weeks, part time April, 8 weeks, part time	30.00 40.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Internal Medicine	Monthly, except July and August, 1 or 2 months, full time	150.00 1 month 300.00 2 months
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: University Hospital	5410-A Diseases of the Liver and Biliary Tract 5419-A Symposium on Internal Medicine	April 16-June 4, part time June 16-27, full time	30.00 90.00
At: Bellevue Hospital At: University, Bellevue and Willard Parker Hospitals	5428-A Internal Medicine 541-A Seminar in Internal Medicine	March 3-28, part time April 14-June 6, full time	90.00 250.00
American College of Physicians, 4200 Pine St., Philadelphia 4, Pa. At: Cornell University Medical College and New York Hospital	Diseases of the Blood Vessels	March 10-15, full time	30.00 A.C.P. mbrs. 60.00 non-mbrs.
At: University of Michigan Medical School	Internal Medicine	Date pending	30.00 A.C.P. mbrs. 60.00 non-mbrs.
At: University of Toronto Faculty of Medicine, Toronto, Ont.	Physiological Basis for Internal Medicine	Date pending	30.00 A.C.P. mbrs. 60.00 non-mbrs.
At: Hahnemann Medical College and Hospital of Philadelphia	Trends and Newer Developments in Internal Medicine	Date pending	30.00 A.C.P. mbrs. 60.00 non-mbrs.
Tennessee State Medical Association, 4 S. Dunlop, University Center, Memphis, Tenn. At: 50 Centers throughout the State	Internal Medicine	Continuously, 10 weeks in each center	20.00 for 10 wks.
University of Texas Postgraduate School of Medicine, 207-A Hermann Professional Bldg., Houston, Texas . At: Scott and White Memorial Hospitals	Internal Medicine	January 21-23, full time	Not given
University of Vermont College of Medicine, Burlington, Vt. At: Mary Fletcher Hospital	Internal Medicine (Preparation for Board Certification) Internal Medicine	Arranged Arranged, 1-3 months	None None
University of Wisconsin Medical School, 418 N. Randall Ave., Madison 6, Wis.	Continuation Conference on Internal Medicine	February, 3 days, full time	10.00
MALIGNANT DISEASE			
Connecticut State Medical Society, P. O. Box 1438, New Haven, Conn.	Cancer Teaching Day	Spring, 1 day	None
Indiana University School of Medicine, Indianapolis, Ind.[12]	Annual Symposium on Malignancy	April 2, 1 day	None
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Review in Cancer	March 20-22, full time	Not given
Washington University School of Medicine, Euclid Ave. and Kingshighway, St. Louis 10, Mo.	Postgraduate Course on Cancer	January	30.00
Cornell University Medical College, 1300 York Ave., New York 21, N. Y.	Exfoliative Cytology (Cancer Detection)	March 3-May 29, full or part time	300.00 for 3 months
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Brooklyn Cancer Institute	Newer Concepts in Diagnosis and Treatment of Neoplastic Disease	April, 8 weeks, part time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Newer Concepts in the Physiology and Biochemistry of Cancer	Arranged, 6 weeks, part time	150.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.	Basic Problems in Cancer Therapy (for Specialists)	January 21-February 2, full time	Not given
Frank E. Bunts Educational Institute, 2020 E. 93d St., Cleveland 6, Ohio	Diagnosis and Treatment of Malignant Disease	March or April, 2½ days, full time	15.00
University of Vermont College of Medicine, Burlington, Vt.[13]	Cancer Symposium	April, 2 days	None
University of Wisconsin Medical School, 418 N. Randall Ave., Madison 6, Wis.	Advances in the Recognition and Treatment of Cancer	February, 2 days, full time	10.00
MEDICINE, GENERAL			
Black Belt Postgraduate Seminar, Marion, Ala. At: Selma, Ala.	Postgraduate Seminar	February and May	None
Medical College of Alabama, Birmingham, Ala.	Annual Postgraduate Seminar	January, 2 days, full time	None
University of Arkansas Office of Postgraduate Medicine, Little Rock, Ark.	Postgraduate Course in Medicine	January 10-11 and May 8-9, full time	20.00
California Medical Association, 1036 N. Center St., Stockton 3, Calif. At: San Bernardino	Medical and Surgical Institute	January 17-18	5.00 for all
At: Santa Rosa	Medical and Surgical Institute	February 14-15	
At: Sacramento	Medical and Surgical Institute	April 3-4	

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
MEDICINE, GENERAL—Continued			
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: Osler House	Varicose Veins	March 4-April 8, part time	$25.00
Hollywood Academy of Medicine, 4759 Hollywood Blvd., Los Angeles 27, Calif. At: Hollywood Roosevelt Hotel	Scientific Meetings	2d Thursday evening of each month except July, August and December	None
Los Angeles County Medical Association, 1925 Wilshire Blvd., Los Angeles 5, Calif. At: San Fernando Branch and East Los Angeles Branch	Practical Medicine Lecture Series	Continuously, part time, 1½ hours a week	None
University of California School of Medicine, San Francisco 22, Calif. At: Mt. Zion Hospital	Program for General Practitioners	March 10-14, full time	Not given
University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 20, Colo.	Applied Medical Science	January 2-June 9, full time	104.00 for residents 234.00 for non-residents
	General Medicine for General Practitioners	March 20-22, full time	30.00
At: Memorial Hospital, Cheyenne, Wyo.	Lecture Series for General Practitioners	February 20-March 26, part time	20.00
George Washington University School of Medicine, 1335 H St., N. W., Washington, D. C. At: George Washington University Hospital	General Medicine	March 24-28, full time	75.00
University of Florida, Dept. of Medicine, Graduate School, 1625 Riverside Ave., Jacksonville, Fla. At: George Washington Hotel	Twentieth Annual Graduate Short Course	June 23-28, full time	10.00
Medical College of Georgia, University Place, Augusta, Ga.	Postgraduate Course for Negro Physicians	June 16-20, full time	None
	Refresher Course for General Practitioners	March 3-7, full time	20.00
Chicago Medical Society, 86 E. Randolph St., Chicago, Ill. At: The Palmer House	Advances in Medicine	March 3-5, 3 days	Not given
	Clinical Conference	March 4-7, full time	5.00 to non-mbrs.
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Personal Course in General Medicine	April 2, 10 sessions, part time	100.00
	Biochemical Background of Clinical Medicine, a Basic Course	March 12, 15 sessions, part time	125.00
	Personal Course in Medical Emergencies, Diagnosis and Treatment	March 12, 10 sessions, part time	80.00
	Intensive Personal Course in Liver and Biliary Tract Diseases	June 2, 1 week, full time	100.00
Illinois Academy of General Practice, 7107 S. Jeffery Ave., Chicago 49, Ill.[14] At: Chicago, Rockford, Joliet, Peoria, Bloomington, Danville, Alton, Belleville, and Herrin	Postgraduate Course	January 9-April 23, part time	35.00 for members 75.00 non-members
Michael Reese Hospital Postgraduate School, 29th St. and Ellis Ave., Chicago 16, Ill.	Practical Approach to Peripheral Vascular Disorders	January or February, 12 weeks, part time	50.00
Indiana State Medical Association, 23 E. Ohio St., Indianapolis, Ind.	Telephone Seminars	1st Tuesday night of each month	50¢ per society member per hour
Kansas Academy of General Practice, 212 Central Bldg., Topeka, Kan. At: Town House Hotel, Kansas City, Kan.	Scientific Meeting	April 15, 1 day	Not given
University of Louisville School of Medicine and Kentucky State Medical Association, Louisville, Ky. At: Brown Hotel	Medical Seminar	June 2-3, full time	10.00
Flint-Goodridge Hospital of Dillard University, 2425 Louisiana Ave., New Orleans, La.	Annual Postgraduate Course for Physicians	June, 2 weeks, full time	10.00
Maryland Academy of General Practice, 2314 W. North Ave., Baltimore, Md. Throughout State of Maryland	One Day Postgraduate Seminar	Arranged, every 2d or 3d month	None
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Rheumatic Diseases	February 4-6, full time	30.00[4]
University of Michigan Medical School, Ann Arbor, Mich. At: University Hospital	Rheumatic Diseases	March 24-28, full time	50.00
At: Alpena, Battle Creek, Bay City, Flint, Jackson, Lansing, Midland, Mt. Clemens, Muskegon, Traverse City, Cadillac, Escanaba, Houghton, Iron Mountain, Ironwood, Marquette, Menominee, Kalamazoo, Niles, and Sault Ste. Marie[15]	Practitioners' Course (Circuit Courses)	April-May, 1 day in each center	None
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: Receiving Hospital	Medical Conference	Quarterly, part time	15.00
Missouri State Medical Association, 623 Missouri Theater Bldg., St. Louis, Mo. At: Jefferson Hotel, St. Louis	1952 Annual Meeting[16]	March 31-April 2, full time	None
At: Eight Rural Councilor Districts of the Mo. State Medical Assn.	Postgraduate District Meetings[17]	Spring, part time	None
University of Missouri School of Medicine, Columbia, Mo. At: Rolla, Mo.	Anti-Coagulant Therapy — Old and New	January 29, 1 evening	None
	The Management of Common Ear, Nose and Throat Conditions		
Atlantic City Hospital, 30 S. Ohio Ave., Atlantic City, N. J.	Recent Advances in General Practice	Continuously, Monday-Friday, 50 weeks	None
New Jersey Academy of General Practice, 129 Chancellor Ave., Newark 8, N. J. At: West Jersey Hospital, Camden	Postgraduate Sessions for South Jersey[18]	Every 8 weeks, 4 hours	None
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn, N. Y.			
At: Jewish Hospital	Hypertension and Nephritis	April, 8 weeks, part time	20.00
At: Beth El Hospital	Peripheral Vascular Diseases	April, 5 weeks, part time	20.00
	Peripheral Vascular Diseases	April, 10 weeks, part time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 105th St., New York 29, N. Y.	Peripheral Vascular Diseases	Arranged, 2 months, part time	200.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	General Medicine	Arranged, 4 weeks, full time	100.00
	General Practitioner's Course	Arranged, 4 weeks, full time	100.00

References will be found on page 1489.

V 14 1951

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
MEDICINE, GENERAL—Continued			
New York University Post-Graduatee Medical School, 477 First Ave., New York 16, N. Y.			
At: Bellevue Hospital	547-A Problems in Diagnosis	April 17-June 5, part time	$35.00
At: University Hospital	5418-B Medicine	June 23-27, full time	50.00
	5412-A Nephritis and Hypertension	April 18-June 6, part time	35.00
	5413-A Peripheral Vascular Diseases	April 15-June 5, part time	40.00
University of North Carolina School of Medicine, Chapel Hill, N. C.			
At: Raleigh, New Bern-Morehead City, Elizabeth City-Ahoskie-Edenton and Gastonia	Medical Postgraduate Extension Course	January, February, March and April, 6 to 8 weeks, part time	20.00 to 30.00
University of Cincinnati College of Medicine, Eden and Bethesda Ave., Cincinnati 19, Ohio	The Southwestrn Ohio Society of General Physicians (Seminars)	February 7-March 6, part time	10.00 [19]
University of Oklahoma School of Medicine, Oklahoma City, Okla.	Laboratory Examination in Clinical Diagnosis	January 28-February 2, full time	60.00
Jefferson Medical College, 1025 Walnut St., Philadelphia 7, Pa.	Jefferson Graduate Assembly [20]	January 30-Feb. 1, full time	5.00
Philadelphia County Medical Society, 301 S. 21st St., Philadelphia 3, Pa.			
At: Bellevue-Stratford Hotel, Philadelphia	Annual Postgraduate Institute	April 1-4, full time	10.00 [21]
Lone Star Medical Association, Prairie View, Texas	Postgraduate Medical Assembly [22]	1st week in March, full time	None
At: Prairie View A. and M. College			
University of Vermont College of Medicine, Burlington, Vt.	May Clinical Meeting	3d week in May, 1 day	None
At: Mary Fletcher and De Goesbriand Hospitals	The Management of Common Traumatic Injuries	January 11, 1 day	None
University of Virginia, Department of Medicine, Charlottesville, Va.	Infectious Diseases	April 4, 1 day	None
Washington Academy of General Practice, 407 Riverside Ave., Spokane, Wash.			
At: The University of Washington School of Medicine, Seattle	General Practice Clinic Day	April 11, 1 day	None
State Medical Society of Wisconsin, 704 E. Gorham St., Madison, Wis.			
At: Various districts in Wisconsin	Clinics and Conferences	February-May, part time	Not given
University of Wisconsin Medical School, 418 N. Randall Ave., Madison 6, Wis.	Recent Advances in Therapy and Prevention of Infectious Diseases	March, 3 days, full time	10.00
NEUROLOGY AND PSYCHIATRY			
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif.			
At: Osler House	Differential Diagnosis of Nervous Diseases	February 14-April 3, part time	40.00
	Roentgen Diagnosis from a Neurological and Neurosurgical Basis	February 12-April 1, part time	40.00
Los Angeles Institute for Psychoanalysis, 407 Commercial Center St., Beverly Hills, Calif.	Professional Training in Psychoanalysis	Arranged, part time	232.00
	The Fundamentals of Psychoanalysis [23]	Weekly, 6 weeks, part time	25.00
	The Fundamentals of Psychoanalysis [24]	Weekly, 6 weeks, part time	12.00
University of California School of Medicine, San Francisco 22, Calif.			
At: The Langley Porter Clinic	Psychosomatic Medicine	March 17-21, full time	Not given
University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 20, Colo.	Psychiatry for General Practitioners	June 26-28, full time	25.00 [6]
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.	Child Psychiatry and Problems of the Psychodynamics of Growth and Maturation in Children and Adolescents	March 19-April 30, part time	15.00
	Psychiatry and Law	January 8-29, part time	10.00
	Clinical Psychology	January 7-February 11, part time	5.00
	Treatment in the Psychiatric Hospitals	January 7-February 11, part time	5.00
At: Connecticut State Hospital, Middletown	Psychiatric Syndromes and Reaction Patterns	January 7-February 11, part time	5.00
	General Psychopathology	January 7-February 11, part time	5.00
At: New Britain Memorial Hospital, New Britain	Psychiatry and Social Problems of Old Age	March 31-April 28, part time	5.00
At: Southbury State Training School, Southbury	Pediatric Neurology	April 4-May 2, part time	10.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Personal Course in Clinical Neurology	March 12, 10 sessions, part time	100.00
	Personal Course in Neuropathology	By appointment on an hourly basis	20.00 per hour
University of Maryland School of Medicine, 29 S. Greene St., Baltimore 1, Md.	Neuropathology "C"	Arranged, 6 months, full time	200.00 plus $10.00 lab. fee
Metropolitan State Hospital, 475 Trapelo Rd., Waltham, Mass. [25]	Postgraduate Seminar in Neurology and Psychiatry	March 3-May 5, part time	None
University of Michigan Medical School, Ann Arbor, Mich.			
At: University Hospital	Clinical Neurology	May 5-7, full time	40.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Clinical Neurology for General Physicians and Specialists	January 28-February 9, 2 weeks, full time	80.00
	Principles of Group Psychotherapy [26]	February 5, 12 weeks, part time	35.00
	Readings in Psychiatry and Allied Fields, Part II [26]	February 7, 8 weeks, part time	25.00
	Continuous Case Seminar (Psychiatrists)	February 7, 15 weeks, part time	40.00
	Studies in Community Mental Health [26]	April 3, 8 weeks, part time	30.00
	Principles and Techniques of Child Psychotherapy [26]	February 5, 12 weeks, part time	30.00
	Somatic Complications During Psychotherapy [26]	May 5, 5 weeks, part time	15.00
Postgraduate Center for Psychotherapy, 218 E. 70th St., New York 21, N. Y.	Clinical Conference in Group Psychotherapy [26]	February 7, 12 weeks, part time	Not given
	Seminar in the Use of the Rorschach Technique with Children [26]	February 7, 15 weeks, part time	30.00
	Psychiatric Seminar for Physicians	February 7, 15 weeks, part time	30.00
	Anthropological Aspects of Psychiatry [26]	February 5, 10 weeks, part time	30.00
	Seminar on Diagnosis and Treatment Planning in Child Psychotherapy [26]	February 7, 15 weeks, part time	30.00
	Research Techniques in Community Mental Health [26]	February 5, 10 weeks, part time	30.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
NEUROLOGY AND PSYCHIATRY—Continued			
Postgraduate Center for Psychotherapy, 218 E. 70th St., New York 21, N. Y.	Advanced Supervisory Technics in Psychotherapy [35]	February 6, 15 weeks, part time	$30.00
	Problems of Adolescence	January 12, 1 day	7.50
	Principles of Psychiatric Consultation with Community Agencies [38]	March 15, 1 day	7.50
	Treatment of the Schizophrenic Patient (Psychiatrists)	March 15, 1 day	7.50
	The Treatment of the Depressed Patient (Psychiatrists)	April 5, 1 day	7.50
	Therapeutic Techniques in Marital Problems [35]	April 26, 1 day	7.50
	Annual Seminar on the Treatment of the Alcoholic Patient [35]	May 3, 1 day	7.50
American Institute for Psychoanalysis, 220 W. 98th St., New York 25, N .Y.	Clinical Conferences on Case Histories	February 5, 15 weeks, part time	30.00
At: New School for Social Research	Sex in Neurosis	March 31, 8 weeks, part time	16.00
	Neuroses and Psychoses	February 7, 15 weeks, part time	17.50
Columbia University, 630 W. 168th St., New York 32, N. Y.	Culture and Neurosis	March 18, 10 weeks, part time	12.50
At: Mt. Sinai Hospital	Clinical Neurology (Neurology PM 30)	April 21-25, full time	60.00
	Laboratory Training in Clinical Electroencephalography (Neurology PM 34) For Specialists	Any three months	150.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: Jewish Hospital	Child Psychiatry (Introductory Course)	April, 10 weeks, part time	20.00
	Child Psychiatry (Advanced Course)	April, 10 weeks, part time	20.00
At: Jewish Sanitarium and Hospital for Chronic Diseases	Clinical Neurology	April, 8 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Psychoanalysis and Psychiatry	Spring, 12 lectures	40.00
	Readings in Psychoanalytic Literature	Spring, 15 lectures, part time	40.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: Bellevue and University Hospitals	553-A Trauma of Central Nervous System	June 16-21, full time	75.00
	Treatment Methods in Psychiatry	January 14-March 8, part time	Not given
	Psychiatry and Neurology	January 7-March 15, full time	Not given
	Psychiatric and Neurologic Problems in General Practice	January 7-26, part time	Not given
	Anatomy and Physiology of the Autonomic Nervous System and Their Clinical Application	January 14-19, full time	Not given
University of Oklahoma School of Medicine, Oklahoma City, Okla.	Practical Psychiatry	February 25-26, full time	10.00
University of Pennsylvania Graduate School of Medicine, Philadelphia 4, Pa.	Electroencephalography	Arranged, 2 weeks, part time [39]	200.00
University of Texas Postgraduate Division, Medical Branch, Galveston, Texas	Psychiatry	February 4-8, full time	25.00
University of Wisconsin Medical School, 418 N. Randall St., Madison 6, Wis.	Neurology and Psychiatry in General Practice	April, 3 days	10.00
NUCLEAR SCIENCE			
Institute of Nuclear Studies, Oak Ridge, Tenn.	Basic Course in Radioisotope Techniques	Jan. 7, Feb. 4, March 10, and June, 4 weeks, full time	25.00
NUTRITION			
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Nutrition	March 10-June 7, part time	35.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Principles and Practices of Diet Therapy (Medicine PM 40)	February 18-March 24, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Nutrition	Arranged, 1 month, part time	150.00
OBSTETRICS AND GYNECOLOGY			
University of Arkansas Office of Postgraduate Medicine, Little Rock, Ark.	Postgraduate Course in Obstetrics and Gynecology	January 21-23 and May 19-21, full time	30.00
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: Osler House	Gynecology	April 2-June 4, part time	30.00
University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 20, Colo.	Obstetrics and Gynecology — Postgraduate Symposium	April 10-12, full time	25.00 [6]
George Washington University School of Medicine, 1335 H St., N. W., Washington, D. C. At: George Washington University Hospital	Obstetrics and Gynecology	March 10-14, full time	75.00
Office of the Surgeon General Educational and Training Division, Washington, D. C. At: Brooke Army Hospital, Fort Sam Houston, Texas	Postgraduate Seminar, Obstetrics and Gynecology [35, a, b, d]	March 27-29, full time	None
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Two Week Intensive Course in Gynecology	Feb. 18, March 17, April 21, June 16, full time	150.00
	Personal Course in Gynecologic Surgery	Jan. 10, Feb. 7, April 3, May 15, 4 weeks, part time	100.00
	Personal Course in Office Gynecology	Jan. 9, Feb. 6, April 2, May 14, 4 weeks, part time	100.00
	Personal Course in Vaginal Approach to Pelvic Surgery	March 3, 31, May 5, June 23, 1 week, full time	100.00
	Two Week Intensive Course in Obstetrics	March 3, 31, June 2, 2 weeks, full time	150.00
	Personal Course in Surgical Obstetrics	January 9, March 6, 4 weeks, part time	100.00
	Personal Course in General and Office Obstetrics	February 6, May 7, 4 weeks, part time	100.00
State University of Iowa College of Medicine, Iowa City, Iowa	Obstetrics and Gynecology, Postgraduate Conference	May, 1 day	5.00
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Review in Obstetrics	March 31-April 5, full time	50.00

References will be found on page 1489.

V 14
1951

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
OBSTETRICS AND GYNECOLOGY—Continued			
Johns Hopkins University School of Medicine, Baltimore, Md.	Gynecology and Gynecological Pathology	February 1, 2 weeks, full time	$150.00
University of Maryland School of Medicine, 29 S. Greene St., Baltimore 1, Md.			
At: University Hospital	Gynecology and Obstetrics	Arranged, during academic year, 12 weeks, full time	150.00
	Gynecology, Oncology and Female Urology	Arranged, during academic year, 10 weeks, full time	125.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass.			
At: Boston Lying-In Hospital	Clinical Obstetrics	April and May, 1 month, full time	150.00 [6]
At: Massachusetts General Hospital	Gynecology 1	Arranged, 3-12 months, full time	800.00 for 12 months [6]
At: Free Hospital for Women	Gynecology 2	June, 1 month, full time	150.00 [6]
University of Michigan Medical School, Ann Arbor, Mich.			
At: Maternity Hospital (University Hospital)	Obstetrics	January 9-12, full time	50.00
	Gynecology	February 7-10, full time	50.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Obstetrics for Specialists	April 17-19, full time	25.00
Washington University School of Medicine, Euclid Ave. and Kingshighway, St. Louis 10, Mo.	Postgraduate Course in Gynecology	March	30.00
University of Missouri, Columbia, Mo.			
At: Macon, Mo.	Analgesia in Obstetrics, Feeding and General Care of Infants	January 30, 1 evening	None
University of Nebraska, 42d and Dewey Ave., Omaha 5, Neb.			
At: University of Nebraska Hospital	Hemorrhage During Pregnancy and Labor	February 15-16, full time	10.00
	Diseases of the Kidney, Cardiovascular Disease and Toxemias of Pregnancy	April 18-19, full time	10.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J.			
At: Seton Hall University Campus	Gynecology	February 23, 15 weeks, part time	100.00
Columbia University, 630 W. 168th St., New York 32, N. Y.			
At: Mt. Sinai Hospital	Recent Advances in Gynecology (Gynecology PM 30)	March 24-29, full time	65.00
At: Margaret Hague Maternity Hospital	Internship Training (Obstetrics PM 80)	1st of each month, 3 months, full time	350.00
	Observation Course (Obstetrics PM 81)	1st of each month, 1 month, full time	100.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: State University College of Medicine	Manikin	April, 8 weeks, part time	30.00
At: Greenpoint Hospital	Sterility	April, 12 weeks, part time	40.00
	Gynecology and Obstetrics, Including Manikin Obstetrics and Operative Gynecology (Cadaver)	April, 2 months, full time	250.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Manikin Obstetrics	Arranged, 4 weeks, part time	150.00
	Clinical Course in Office and General Obstetrics	Arranged, 4 weeks, part time	100.00
	Clinical Gynecology	Arranged, 6 weeks, part time	75.00
	Clinical and Operative (Cadaver) Gynecology	Arranged, 6 weeks, part time	175.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: University Hospital	561-B Seminar in Gynecology	April 28-June 21, full time	250.00
	562-B Gynecology, Diagnosis and Office Treatment	February 25-March 17, part time	50.00
	563-B Gynecology, Diagnosis and Office Treatment	March 24-April 25, part time	75.00
	566-B Cystoscopy and Endoscopy	March 24-April 25, part time	75.00
	567-B Gynecological Endocrinology	April 15-June 7, part time	125.00
	568-B Vaginal Cytology (for Specialists)	April 15-June 5, part time	85.00
	569-B Surgical Anatomy as Applied to Gynecology (Cadaver) (for Specialists)	February 26-March 22, part time	175.00
At: Beth Israel Hospital	734-B Gynecology (for Specialists)	February 4-May 23, part time	250.00
University of Oregon Medical School, 3181 S. W. Sam Jackson Park Rd., Portland 1, Ore.	Obstetrics	January 28-30, full time	30.00
Meharry Medical College, Nashville, Tenn.	Postgraduate Course in Obstetrics	May 12-16, full time	Not given
University of Texas Postgraduate Division, Medical Branch, Galveston, Texas	Obstetrics	April 7-11, full time	25.00
University of Washington School of Medicine, Seattle 5, Wash.	Gynecology	To be announced, 4 days, full time	40.00
ONCOLOGY			
University of Texas Postgraduate Division, Medical Branch, Galveston, Texas	Tumor	March 3-6, full time	20.00
OPHTHALMOLOGY AND OTOLARYNGOLOGY			
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif.			
At: Osler House	Ophthalmology	January 29-March 18, part time	30.00
	Histology and Histopathology of the Eye	February 27-June 18, part time	75.00
Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15, Calif.	Stanford Spring Postgraduate Conference in Ophthalmology	March 24-28, full time	75.00
University of Florida, Dept. of Medicine, Graduate School, 1625 Riverside Ave., Jacksonville, Fla.			
At: San Souci Hotel, Miami Beach, Fla.	Midwinter Seminar in Ophthalmology and Otolaryngology	January 14-19, full time	40.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Two Week Clinical Course in Ophthalmology	1st of every week, full time	50.00
	Refresher Course in Ear, Nose and Throat for the General Practitioner	April 3, 10 sessions, part time	100.00
	Two Week Clinical Course in Otolaryngology	1st of every week, full time	50.00
University of Illinois College of Medicine, 1853 W. Polk St., Chicago, Ill.	Bronchoesophagology		150.00
State University of Iowa College of Medicine, Iowa City, Iowa	Ophthalmology Monthly Conference	1st Thursday of every month	None
University of Kansas Medical Center, Kansas City, Kan.[1]	Ophthalmology and Otolaryngology	March 17-21, full time	30.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
OPHTHALMOLOGY AND OTOLARYNGOLOGY—Continued			
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Ophthalmoscopic Diagnosis in General Practice	January 31-February 2, full time	$25.00
Harvard Medical School Courses for Graduates, 25 Shattuck St., Boston 15, Mass.			
At: Harvard and Massachusetts Eye and Ear Infirmary	Clinical Ophthalmology and Ocular Pathology	January 2-February 2, full time	150.00 [6]
	Fundamentals in Refraction and Ocular Motility	February 4-March 1, full time	150.00 [6]
	Audiology	February 4-16, full time	125.00 [6]
	Anatomy of the Temporal Bone	February 18-March 29, full time	300.00 [6]
Ophthalmological Study Council, 243 Charles St., Boston, Mass.			
At: Westbrook Jr. College, Portland, Me.	Lancaster Courses in Ophthalmology	June-September, full time	310.00
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Neuroophthalmology	March 3-7, full time	75.00 [6]
University of Michigan Medical School, Ann Arbor, Mich.	Ophthalmology for Specialists	April 21-23, full time	50.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Eye, Ear, Nose and Throat for General Physicians	May 12-14, full time	25.00
	Otolaryngology for Specialists	June 23-28, full time	40.00
Columbia University, 630 W. 168th St., New York 32, N. Y.	Ophthalmoscopy in General Practice (Ophthalmology PM 39-A)	February 4-March 24, part time	25.00
	Symposium in Ophthalmology (Ophthalmology PM 43) [40]	April 28-May 24, full time	385.00
	Refraction (Ophthalmology PM 44)	April 28-May 1, part time	45.00
	Muscles (Ophthalmology PM 45) [40]	April 28-May 2, part time	40.00
	Physiological Optics (Ophthalmology PM 46) [40]	April 28-May 1, part time	40.00
	Histopathology of the Eye (Ophthalmology PM 47) [40]	May 5-9, full time	50.00
	Bacteriology and External Diseases of the Eye (Ophthalmology PM 48) [40]	May 5-9, part time	40.00
At: Mt. Sinai Hospital	Medical Ophthalmology (Ophthalmology PM 49) [40]	May 6-10, part time	25.00
	Rhinoplasty and Otoplasty (Otorhinology PM 30) [40]	Any 3 months during academic year, part time	250.00
	Ophthalmoscopy (Ophthalmology PM 50) [40]	May 12-16, part time	40.00
	Slit Lamp Microscopy (Ophthalmology PM 52) [40]	May 12-16, part time	25.00
	Embryology of the Eye (Ophthalmology PM 53) [40]	May 12-16, part time	40.00
	Glaucoma (Ophthalmology PM 51) [40]	May 13-17, part time	25.00
	Neuro-Ophthalmology (Ophthalmology PM 54) [40]	May 19-23, part time	25.00
	Ophthalmic Surgery (Ophthalmology PM 55) [40]	May 19-24, full time	90.00
At: Montefiore Hospital	Perimetry (Ophthalmology PM 61) [40]	March 10-May 5, part time	30.00
At: Columbia Presbyterian Medical Center	Bronchoscopy (Otolaryngology PM 1) [40]	April 7-25, part time	250.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: Jewish Sanitarium and Hospital for Chronic Diseases	Ophthalmoscopy	April, 8 weeks, part time	20.00
	External Eye Diseases	April, 8 weeks, part time	20.00
	Perimetry [40]	February 6-29, May 7-June 4, 4 weeks, part time	75.00
	Refraction [40]	January 7-February 29, 8 weeks, part time	150.00
	Operative Eye Surgery [40]	October through May, 4 weeks, part time	150.00
	Glaucoma [40]	January 8-February 26, 8 weeks, part time	75.00
	Ophthalmoscopy [40]	January 2-30, 4 weeks, part time	75.00
	Slit Lamp Microscopy [40]	February 5-March 4, part time	100.00
	Anomalies of Extraocular Muscles [40]	Arranged, 4 weeks, part time	75.00
	Plastic Eye Surgery [40]	Arranged, 4 weeks, part time	150.00
	Physiological Optics [40]	January 9-February 15, 6 weeks, part time	100.00
	External Diseases of the Eye [40]	January 22-February 16, April and May, 4 weeks, part time	75.00
	Histopathology of the Eye [40]	February 4-9, part time	150.00
	Clinical Histopathology of the Eye [40]	January 8-February 1, part time	75.00
	Didactic and Operative Work in Rhino-Plasty and Otoplasty [40]	Arranged, 4 weeks, part time	250.00
New York Eye and Ear Infirmary, 218 2d Ave., New York, N. Y.	The Conservative Management of Acute Sinusitis and Chronic Rhinitis [40]	May, part time	75.00
	Rehabilitation of the Hard of Hearing [40]	Arranged, part time	75.00
	Broncho-Esophagology and Laryngeal Surgery [40]	February 4-16, part time	250.00
	Roentgenology—Eye [40]	Arranged, part time	50.00
	Preparation of Sections of the Eye [40]	Arranged	75.00
	Pathological Anatomy of Successfully and Unsuccessfully Operated Eyes [40]	Arranged, part time	50.00
	Clinical Studies through Therapy and Histopathology of the Diseases of the Fundus of the Eye [40]	February 12-March 7, part time	50.00
	Neuro Ophthalmology [40]	January 4-February 1, part time	100.00
	Allergy of the Eyes and Respiratory Tract [40]	January 6-February 1, part time	150.00
	Roentgenology—Ear [40]	January 14-25, part time	75.00
	Clinical Physiopathology of the Ear [40]	Arranged, 10 lectures, part time	150.00
	Resuscitation (to Acquaint Physicians with the Death Zone of the Respiratory Tract) [40]	Arranged, part time	50.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
OPHTHALMOLOGY AND OTOLARYNGOLOGY—Continued			
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Otolaryngology and Ophthalmology, Including Cadaver, EENT and Refraction	January and April, 3 months, full time	$600.00
	Refraction	Arranged, 4 weeks, part time	100.00
	Advanced Otology	Arranged, 2 weeks, part time	250.00
	Ophthalmology, including Cadaver Ophthalmology and Refraction	Arranged, 3 months, part time	300.00
	Motor Anomalies	Arranged, 4 weeks, part time	50.00
	Head and Neck Dissection	Arranged, 4 weeks, part time	150.00
	Bronchoscopy	Arranged, 4 weeks, part time	150.00
	Surgical Anatomy of Nose and Accessory Sinuses	Arranged, 4 weeks, part time	150.00
	Operative Ophthalmology (Cadaver)	Arranged, 4 weeks, part time	100.00
	Operative Otology (Cadaver)	Arranged, 4 weeks, part time	100.00
	Operative Nose and Throat	Arranged, 4 weeks, part time	150.00
	Seminar in Ophthalmology and Otolaryngology	Arranged, 5 days, full time	50.00
	Clinical Ophthalmology	Arranged, 6 weeks or 3 months, part time	75.00 6 wks. 100.00 3 mos.
	Clinical Otolaryngology	Arranged, 6 weeks or 3 months, part time	100.00 6 wks. 150.00 3 mos.
	Clinical Ophthalmology and Otolaryngology	Arranged, 6 weeks or 3 months, full time	150.00 6 wks. 250.00 3 mos.
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: University Hospital	571-A Motor Anomalies of the Eye (Part I) for Specialists	March 10-15, full time	90.00
	572-A Motor Anomalies of the Eye (Part II) for Specialists	March 17-21, full time	75.00
	573-B Ophthalmic Neurology (for Specialists)	March 3-7, part time	50.00
	575-B Differential Diagnosis with the Slit Lamp (for Specialists)	February 25-29, part time	75.00
	577-B External Diseases of the Eye (for Specialists)	February 25-29, part time	75.00
At: University and Bellevue Hospitals	5712-B Practical Office Procedures	January 28-February 1, part time	50.00
	579-B Neuro-Ophthalmology	January 21-25, part time	50.00
	5710-B Perimetry	January 21-25, part time	50.00
At: Bellevue Hospital	578-B Ocular Expressions of Systemic Disease	March 3-7, part time	50.00
	5711-B Ophthalmoscopy	January 28-February 1, part time	50.00
At: University, Bellevue and Lennox Hill Hospitals	574-B Surgery of the Eye (for Specialists)	March 24-29, full time	100.00
At: Bellevue and University Hospitals	574-B Endaural Surgery	May 5-16, full time	150.00
University of Cincinnati College of Medicine, Eden and Bethesda Ave., Cincinnati 19, Ohio	Graduate Convention in Otology, Rhinology and Laryngology [37]	April 14-19, full time	125.00
University of Oregon Medical School, 3181 S. W. Sam Jackson Park Rd., Portland 1, Ore.[41]	Ophthalmology and Otolaryngology	March 24-28, full time (2½ days each section)	50.00 for one course 75.00 for both 250.00
Temple University Medical School, 3400 N. Broad St., Philadelphia 40, Pa.	Bronchoesophagology	February 11-22, full time	
Gill Memorial Eye, Ear and Throat Hospital, 711 S. Jefferson St., Roanoke, Va.	25th Annual Spring Congress in Ophthalmology and Otolaryngology	April 7-12, full time	75.00
ORTHOPEDIC SURGERY			
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif.			
At: Osler House	Minor Orthopedic Surgery	April 15-June 3, part time	80.00
	Diseases and Injuries of Bones and Joints	July 7-31, full time	80.00
Harvard Medical School Courses for Graduates, 25 Shattuck St., Boston 15, Mass.			
At: Children's Hospital	Orthopedic Surgery 1	Arranged, 1-12 months, full time	800.00 for 12 months [g]
At: Massachusetts General Hospital	Orthopedic Surgery 2	Arranged, 3-12 months, full time	800.00 for 12 months [g]
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Hospital for Joint Diseases	Survey of the Essentials of Orthopedics (Orthopedic Surgery PM 80)	March 6-May 15, part time	100.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Orthopedics in General Practice	April, 6 weeks, part time	60.00
	Orthopedics of the Foot	Arranged, 8 weeks, part time	100.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Orthopedic Surgery for General Surgeons	Arranged, 3 months, part time	75.00
	Operative Orthopedics (Cadaver)	Arranged, 5 periods, part time	100.00
	Advanced Orthopedics of the Foot	Arranged, 8 periods, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: Bellevue and University Hospitals	582-B Orthopedics in General Practice	June 16-27, full time	85.00
PATHOLOGY			
University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 20, Colo.	Surgical Pathology	March 24-June 9, part time	28.00 for residents 64.00 for non-residents
Office of the Surgeon General, Educational and Training Division, Washington, D. C. At: Armed Forces Institute of Pathology, 7th and Independence Ave., S. W., Washington 25, D. C.	Ophthalmic Pathology [36,a,b,c]	February 4-8, full time	None
Dade County Cancer Institute, 1155 N. W. 14th St., Miami, Fla.	Seminars—Cancer, Diagnosis and Cytology	January 14-19, full time	Not given
	Diploma Course in Cytology for Certification	Arranged, 6 months	Not given

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	PATHOLOGY—Continued		
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Twelve Month Department Course in Gross and Surgical Pathology	By appointment, full time	$900.00
	Personal Course in Surgical Pathology	By appointment, every month, full time	150.00 2 weeks 250.00 4 weeks 500.00
	Twelve Month Course in Gross and Microscopic Pathology	By appointment, full time	500.00
	Six Month Clinical Course in Gross and Surgical Pathology	By appointment, full time	500.00
	Personal Course in Pathology and Laboratory Medicine	March 26, 10 sessions, part time	100.00
Michael Reese Hospital Postgraduate School, 29th St. and Ellis Ave., Chicago 16, Ill.	Pathologic Diagnosis	April 2-June 4, 10 weeks, part time	50.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass. At: Free Hospital for Women	Pathology of Obstetrics and Gynecology	January 3-May 8, part time	150.00 *
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Surgical Pathology (Pathology PM 31)	February 2-May 10, part time	100.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: State University College of Medicine at New York	Gynecological and Obstetrical Pathology	March, 10 weeks, part time	100.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	[illegible]	Arranged, 16 weeks, part time	200.00
	Clinical Pathology	Arranged, part time	100.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Surgical Pathology	Arranged, 3 months, part time	300.00
	Urological Pathology	Arranged, 3 months, part time	50.00
	Blood Transfusions	Arranged, 2 weeks, part time	100.00
	Pathology	Arranged, 3 months, part time	300.00
	Pathology	Arranged, 12 months, part time	1,000.00
	Pathology for Surgeons	Arranged, 1 month, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.	441-B Gynecological Pathology (for Specialists)	January 22-March 18, part time	100.00
At: University Hospital	442-B Surgical Pathology (for Specialists)	March 18-June 26, part time	200.00
At: Lenox Hill Hospital	737-B Histopathology for Gynecologists	April 15-May 23, part time	50.00
	736-B Pathology for Surgeons	April 14-May 22, part time	50.00
	PEDIATRICS		
University of Arkansas, Office of Postgraduate Medicine, Little Rock, Ark.	Postgraduate Course in Pediatrics	February 18-19, full time	20.00
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: Osler House	Surgical Diseases of Children	April 3-June 5, part time	30.00
University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 20, Colo. At: St. Francis Hospital, Colorado Springs	Children's Disease Clinic	May 21, 1 day	None
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Twelve Month Department Course in Pediatrics	July 1, full time	750.00
	Two Week Intensive Course in Pediatrics	April 7, full time	100.00
	Informal Refresher Course in Clinical Pediatrics	1st of every week, 2 or 4 weeks, full time	60.00 2 weeks 100.00 4 weeks 150.00
	Two Week Personal Course in Cerebral Palsy	July 7, full time	150.00
	Two Week Intensive Course in the Diagnosis and Treatment of Congenital and Acquired Heart Disease in Infants and Children	To be announced, full time	150.00
	Personal Course in Pediatrics	March 19, 10 sessions, part time	80.00
The Children's Memorial Hospital, 707 Fullerton Ave., Chicago 14, Ill.	Pediatrics	May, 4 weeks, full time	100.00
Michael Reese Hospital Postgraduate School, 29th St. and Ellis Ave., Chicago 16, Ill.	Recent Advances in Pediatrics, Diagnostic and Therapeutic Measures	May, 1 week, full time	50.00
University of Kansas Medical Center, Kansas City, Kan.[1]	Pediatrics	January 28-30, full time	20.00
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Pediatrics (for Specialists)	February 11-15, full time	50.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass. At: Children's Hospital	Pediatrics 2	January 2-April 25, full time	500.00 *
At: Massachusetts General Hospital	Pediatrics 3	June 9-21, full time	125.00 *
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Pediatrics for General Physicians	January 7-9, full time	25.00
	Pediatrics for Specialists	April 21-23, full time	25.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Mt. Sinai Hospital	Clinical Pediatrics (Pediatrics PM 30)	February 5-April 15, part time	80.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Kings County Hospital	Applied Immunologic Procedures in Children	April, 8 weeks, part time	20.00
At: Beth El Hospital	Clinical Pediatrics	April, 6½ weeks, part time	30.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Pediatrics	Arranged, 4 weeks, part time	75.00
New York State Department of Health, Albany, N. Y. At: Buffalo Children's Hospital	Intensive Pediatric Refresher Course for General Practitioners	Spring, 2 weeks, full time	None

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	PEDIATRICS—Continued		
New York Medical College, Flower and Fifth Ave. Hospitals, 29 E. 106th St., New York 29, N. Y.	Clinical Pediatrics	Continuously 1, 3, 6, 9 and 12 months	..... [28]
	Pediatric Allergy (Course II)	First two weeks in May, full time	$200.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: University Hospital	613-A Pediatric Refresher Course	January 21-February 2, full time	90.00
	614-B Review of Clinical Pediatrics	March 10-15, full time	50.00
	616-A Pediatric Allergy	April 1-June 3, part time	60.00
	619-A Pediatric Cardiology	April 2-June 4, part time	60.00
At: Bellevue and University Hospitals	615-A Practical Pediatric Endocrinology	April 3-June 5, part time	50.00
University of Oregon Medical School, 3181 S. W. Sam Jackson Park Rd., Portland 1, Ore.	Pediatrics	May 12-16, full time	50.00
Meharry Medical College, Nashville, Tenn.	Refresher Course in Pediatrics	May 12-16, full time	30.00
Vanderbilt University, Nashville, Tenn.	Pediatrics	May 25, 3 days	25.00
Baylor University College of Medicine, Houston, Texas	Postgraduate Course in Pediatrics	April 14-18, full time	Not given
University of Texas Postgraduate Division, Medical Branch, Galveston, Texas	Pediatrics	April 15-17, full time	15.00
University of Vermont College of Medicine, Burlington, Vt.[29]	Pediatrics Seminar	Spring, 2 days	None
	PHARMACOLOGY		
New York Medical College, Flower and Fifth Ave. Hospitals, 29 E. 106th St., New York 29, N. Y.	Applied Pharmacology and Therapeutics	Arranged, part time	100.00
	PHYSICAL MEDICINE		
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: Jewish Sanitarium and Hospital for Chronic Diseases	Clinical Rehabilitation	April, 10 weeks, part time	20.00
At: Kings County Hospital	Physical Medicine and Rehabilitation	April, 6 weeks, part time	20.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Physical Medicine and Rehabilitation	Arranged, 4 weeks, part time	100.00
	PHYSIOLOGY		
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[9]	Physiology 200, Brain Tumor Registry	Arranged, full time	65.00 per month
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Clinical Physiology, a Basic Course	March 13, 10 sessions, part time	100.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Survey of Physiology	March 10-June 7, part time	15.00
	Blood	March 3-June 7, part time	30.00
Columbia University, 630 W. 168th St., New York 32, N. Y.			
At: Mt. Sinai Hospital	Physiology of Water and Electrolyte Balance (Physiology PM 31)	January 30-April 9, part time	40.00
New York Medical College, Flower and Fifth Ave. Hospitals, 29 E. 106th St., New York 29, N. Y.	Physiology of the Cardiovascular System and Blood	Arranged, 4 weeks, part time	75.00
	Physiology of Respiration	Arranged, 1 month, part time	75.00
	Physiology of the Nervous System	Arranged, 2 weeks, part time	50.00
	Physiology of the Endocrine System	Arranged, 1 month, part time	75.00
	Physiology and Chemistry of the Gastrointestinal Tract, Digestion	Arranged, 1 month, part time	150.00
	Physiology of the Special Senses	Arranged, 1 month, part time	75.00
	Applied Physiology	Arranged, part time	300.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: University Hospitals	545-A Normal and Pathological Physiology, Functional and Chemical Aspects	April 16-June 4, part time	40.00
	5420-B Normal and Pathological Physiology, Functional and Chemical Aspects	February 25-March 7, full time	100.00
University of Texas Postgraduate School of Medicine, 207-A Hermann Professional Bldg., Houston, Texas			
At: Robert B. Green Memorial Hospital	Physiology	April 18-May 9, part time	10.00
	PLASTIC SURGERY		
Manhattan General Hospital, 307 Second Ave., New York, N. Y.[30]	Rhinoplastic and Otoplastic Surgery	February 11-March 15, full time	500.00
	POLIOMYELITIS		
Orthopaedic Hospital, 2400 S. Flower St., Los Angeles, Calif.	Poliomyelitis; Team Approach to Total Care	February 11-14 and May 19-22, full time	15.00
University of Colorado School of Medicine, 4200 East Ninth Ave., Denver 20, Colo.[31]	Poliomyelitis and Other Childhood Diseases with Respiratory Dysfunction	January 17-19, full time	15.00 [6]
Georgia Warm Springs Foundation, Warm Springs, Ga.	Care of Acute and Convalescent Poliomyelitis	1st Monday of January and April, 5 days, full time	None
Children's Hospital, 300 Longwood Ave., Boston, Mass.	Diagnosis and Management of Acute Poliomyelitis	June, 5 days, full time	50.00
D. T. Watson School of Physiatrics, Leetsdale, Pa.[31]	Management of Acute Poliomyelitis	Summer, 4 days, full time	10.00
	PROCTOLOGY		
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif.			
At: Osler House	Proctology	January 3-March 6, part time	50.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Lecture and Cadaver Course in Proctology	January 9, March 12, May 21, 5 sessions, part time	75.00
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Proctology I	April 21-25, full time	40.00 [6]
	Proctology II	April 28-May 24, full time	250.00 [6]

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	PROCTOLOGY—Continued		
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Proctology for General Physicians	April 14-19, full time	$40.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J. At: Newark City Hospital	Office Proctology	February 7, 3 afternoons, part time	50.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Jewish Hospital	Proctology	April, 6 weeks, part time	40.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Proctology, Gastroenterology, Operative Proctology (Cadaver)	January and April, part time	200.00
	Clinical Proctology and Gastroenterology	January and April, part time	100.00
	Clinical Proctology	Arranged, 6 weeks, part time	75.00
	Clinical and Cadaver Proctology	Arranged, 6 weeks, part time	175.00
	Clinical Gastroenterology	Arranged, 6 weeks, part time	75.00
	PUBLIC HEALTH		
U. S. Public Health Service, Communicable Disease Center, Atlanta, Ga.	Laboratory Diagnosis of Bacterial Diseases, General Bacteriology, Part 1	February 11-22, full time	None
	Part 2—General Bacteriology	February 25-March 7, full time	None
	Enteric Bacteriology	March 10-21, full time	None
	Laboratory Diagnosis of Bacterial Diseases	May 12-16, full time	None
	Laboratory Diagnosis of Parasitic Diseases, Part 1, Intestinal Parasites	February 11-March 7, full time	None
	Part 2, Blood Parasites	March 10-28, full time	None
	Laboratory Diagnosis of Parasitic Diseases	May 12-16, full time	None
	Laboratory Diagnosis of Virus Diseases	March 10-21, full time	None
	Laboratory Diagnosis of Virus Diseases	May 12-16, full time	None
	Laboratory Methods in Medical Mycology, Part 1, Cutaneous and Subcutaneous Fungi	March 31-April 11, full time	None
	Part 2, Systemic Fungi	April 14-25, full time	None
	Laboratory Diagnosis of Rabies	April 7-11, full time	None
	Laboratory Diagnosis of Tuberculosis	April 14-25, full time	None
	Laboratory Diagnosis of Tuberculosis	May 19-23, full time	None
New York State Department of Health, Albany, N. Y.[32] At: Albany, Buffalo, Rochester, Poughkeepsie, and Syracuse	Extension Course in Public Health	Continuously, part time	25.00
	PULMONARY DISEASES		
Los Angeles County TB Association and Trudeau Society, Los Angeles, Calif. At: Elks Hall, Santa Monica	Chest Disease Symposium	March, 3 days	10.00
University of California School of Medicine, San Francisco 22, Calif.[33]	Symposia on Diseases of the Chest	January 16-February 6, part time	Not given
Edward L. Trudeau Foundation and Trudeau Sanatorium, Saranac Lake, N. Y.	Trudeau School of Tuberculosis	April 28, 4 weeks, full time	100.00
Columbia University, 630 W. 168th St., New York 32, N. Y. At: Bellevue Hospital	Diseases of the Chest (Medicine PM 80)	February 4-29, full time	75.00
At: Columbia-Presbyterian Medical Center	Diseases of the Chest (Medicine PM 1)	January 21-26, full time	40.00
At: Mt. Sinai Hospital	Diseases of the Chest (Medicine PM 37)	January 22-March 18, part time	60.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y. At: Beth El Hospital	Diseases of the Chest	April, 6 weeks, part time	30.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y. At: Municipal Sanatorium	Diseases of the Chest	March, 2 months, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: Willard Parker Hospital	Pulmonary Tuberculosis	Arranged, 3 weeks, full time	175.00
At: University and Willard Parker Hospitals	548-A Acute and Chronic Diseases of the Chest	April 14-June 2, part time	35.00
	5416-A Acute and Chronic Pulmonary Diseases	March 10-14, full time	45.00
American College of Chest Physicians, 112 E. Chestnut St., Chicago At: Warwick Hotel, Philadelphia	5th Annual Postgraduate Course in Diseases of the Chest	March 24-28, full time	50.00
	RADIOLOGY		
University of Arkansas, Office of Postgraduate Medicine, Little Rock, Ark.	Postgraduate Course in Radiology	March 6-7, 2 days	20.00
Yale University School of Medicine, 333 Cedar St., New Haven, Conn.[9]	Radiology 304, Radioactivity	March 7-May 31, part time	60.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Intensive Review Course in Radiation Physics	May 28-31, full time	50.00
	Diagnostic Roentgenology	April 2, 10 sessions, part time	100.00
	Clinical Interpretation of X-Ray Findings	March 13, 10 sessions, part time	80.00
	High and Low Voltage X-Ray Therapy	1st of every week, 1 or more weeks, full time	60.00 [43] 1 week
	Twelve Month Course in Diagnostic Roentgenology and X-Ray Therapy	By appointment, full time	750.00
	Two Week Clinical and Didactic Course in Diagnostic Roentgenology and Fluoroscopy	1st Monday of each month, 2 weeks, full time	125.00
	Routine Clinical Course in Diagnostic Roentgenology and Fluoroscopy	3d Monday of every month, full time	70.00
	Eight Month Course in Diagnostic Roentgenology	By appointment, full time	500.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	RADIOLOGY—Continued		
University of Kansas Medical Center, Kansas City, Kan.[1]	Roentgenological Physics	February and March, part time	$25.00
	Diagnostic X-Ray and Fluoroscopy	March 20-April 24, 6 weeks, part time	25.00
	Radiology	February 25-27, full time	20.00
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass.			
At: Peter Bent Brigham Hospital	General Radiology 1	Arranged, 1 month, full time	150.00 [6]
At: Massachusetts General Hospital	General Radiology 2	Arranged, 1 month, full time	150.00 [6]
At: Boston City Hospital	General Radiology 3	Arranged, 1 month, full time	150.00 [6]
At: Children's Hospital	Pediatric Radiology	Arranged, 1 month, full time	150.00 [6]
University of Michigan Medical School, Ann Arbor, Mich.			
At: University Hospital	Radiology, Diagnostic	April 7-11, full time	50.00
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.			
At: Receiving Hospital	Medical X-Ray Conference	Quarterly, part time	15.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	X-Ray for General Physicians	March 3-5, full time	25.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J.			
At: Newark City Hospital	Radiation Therapy	March 4, 9 weeks, part time	75.00
Columbia University, 630 W. 168th St., New York 32, N. Y.			
At: Hospital for Joint Diseases	Roentgenographic Interpretation of the Diseases of Bones and Joints (Radiology PM 80)	March 5-May 21, part time	150.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: Jewish Sanitarium and Hospital for Chronic Diseases	Clinical Radiology	April, 10 weeks, part time	20.00
At: Beth El Hospital	Roentgen Diagnosis in Thoracic Diseases	April, 8 weeks, part time	20.00
At: Jewish Hospital of Brooklyn	Cardiovascular Roentgenology	April, 8 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Diagnostic Roentgenology	Arranged, 6 weeks, part time	150.00
	Radium and Roentgen Therapy	Arranged	150.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Roentgen Interpretation	January and April, 3 months, full time	300.00
	Advanced Diagnostic Roentgen and Radiotherapy	January and April, 3 months, full time	300.00
	Diagnostic Roentgenology and Radiation Therapy	January and April, 12 months, full time	1,000.00
	Practical Course in Superficial and Deep Therapy	Arranged, 4 weeks, part time	100.00
	Advanced Course in Radiotherapy	Arranged, 4 weeks, part time	100.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.			
At: University Hospital	652-B Diagnostic Radiology	February 18-May 9, part time	100.00
	654-A Radiobiology	January 31-June 12, part time	75.00
	656-A Diagnostic Radiology	June 16-27, part time	50.00
University of Oklahoma School of Medicine, Oklahoma City, Okla.	X-Ray Diagnosis	May 2-3, full time	10.00
University of Texas Postgraduate School of Medicine, 207-A Hermann Professional Bldg., Houston, Texas			
At: St. Joseph's Infirmary	Radiology	January 9-March 12, part time	25.00
At: Robert B. Green Memorial Hospital	Radiology	April 18-May 9, part time	10.00
	SURGERY		
University of Arkansas, Office of Postgraduate Medicine, Little Rock, Ark.	Postgraduate Course in Surgery	March 24-26, full time	30.00
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif.			
At: Osler House	Thoracic Surgery	April 30-June 18, part time	30.00
	Surgical Diseases of the Peripheral Vascular System	January 8-February 26, part time	30.00
University of Colorado School of Medicine, 4200 E. Ninth Ave., Denver 20, Colo.	Traumatic and Emergency Surgery	May 19-20, full time	15.00 [6]
Office of the Surgeon General, Educational and Training Division, Washington, D. C.			
At: Fitzsimons Army Hospital, Denver 8, Colo.	Thoracic Surgery [36.a.b.c]	March 3-7, full time	None
George Washington University School of Medicine, 1335 H St., N. W., Washington, D. C.			
At: George Washington University Hospital	Surgery	February 25-29, full time	75.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Two Week Intensive Review Course Considering Basic Principles in General Surgery	March 31, 2 weeks, full time	200.00
	Ten Hour Personal Course in Gallbladder Surgery	April 21, June 16, full time	100.00
	One Week Personal Course in Breast and Thyroid Surgery	June 23, 1 week, full time	150.00
	Ten Hour Course in the Treatment of Varicose Veins	1st and 3d Wednesday each month, part time	40.00
	Ten Hour Course in the Treatment of Varicose Veins	By appointment, every Monday, 2 days, full time	40.00
	Four Week Course in Surgical Technique, Clinical Surgery, Surgical Anatomy, Pre- and Post-Operative Management	March 3, June 2, full time	300.00
	Intensive Two Week Course in Surgical Technique	Jan. 21, Feb. 4, 18, March 3, 17, 31 April 14, 28, May 12, June 2, 16, full time	200.00
	Surgical Technique with Practice	February 13, 10 sessions, part time	250.00
	Personal Course in Surgical Diagnosis, Pre- and Post-Operative Management	April 2, 10 sessions, part time	100.00
	Basic Principles in General Surgery	March 6, 10 sessions, part time	125.00
	Personal Course in Clinical Surgery	March 6, 10 sessions, part time	150.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	SURGERY—Continued		
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	One Week Personal Course in General Surgery	February 11, May 12, full time	$150.00
	Two Week Personal Course in General Surgery	April 14, full time	250.00
	Two Week Course in Surgical Anatomy on the Cadaver, Clinical Surgery, Pre- and Post-Operative Management	March 17, June 16, full time	150.00
	Surgical Anatomy on the Cadaver	March 13, 10 sessions, part time	125.00
	One Week Personal Course in Thoracic Surgery	To be announced, full time	100.00
	Personal Course in Thoracic Surgery	March 26, 10 sessions, part time	100.00
	One Week Personal Course in Surgery of Colon and Rectum	March 3, April 7, May 12, June 2, full time	100.00
	One Week Personal Course in Esophageal Surgery	June 23, full time	150.00
	Personal Course in Surgical Pathology, Gross and Microscopic	March 19, 10 sessions, part time	100.00
	Personal Course in Surgical Pathology on Selective Subjects	By appointment, 1 or 2 weeks	15.00 per hour
	Personal Course in Esophageal Surgery	April 1, 10 sessions, part time	150.00
	Clinical Bronchoscopy	April 16, 8 sessions, part time	150.00
	One Week Personal Course in Bronchoscopy	By appointment throughout the year	100.00
	Practical and Didactic Course in Proctoscopy and Sigmoidoscopy	Jan. 15, Feb. 12, March 11, April 8, May 6, June 10, 3 sessions, part time	50.00
Michael Reese Hospital Postgraduate School, 29th St. and Ellis Ave., Chicago 16, Ill.	Surgery, Indications, Pre- and Post-Operative Care	April, 1 week, full time	50.00
University of Kansas Medical Center, Kansas City, Kan.[1]	Surgery	January 21-25, full time	50.00
Tulane University School of Medicine, 1430 Tulane Ave., New Orleans, La.	Review in General Surgery and Traumatology	January 7-12, full time	50.00
	Surgery of the Hand	Arranged, 2½ days, full time	Not given
Harvard Medical School, Courses for Graduates, 25 Shattuck St., Boston 15, Mass.			
At: Massachusetts General Hospital	Experimental and Clinical Surgery	Arranged, 1-12 months, full time	800.00 [6] for 12 months
Tufts College Medical School, Postgraduate Division, 30 Bennet St., Boston 11, Mass.	Traumatic Surgery	April 24-26, full time	30.00 [6]
	Principles of Surgical Technique (for Surgeons)	May 19-June 27, part time	250.00 [6]
	Surgical Anatomy (for Surgeons)	March 3-April 25, part time	250.00 [6]
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich.	Surgery Seminar	Quarterly, part time	15.00
University of Minnesota Center for Continuation Study, Minneapolis 14, Minn.	Surgery for General Physicians	April 7-9, full time	25.00
Essex County Medical Society, 38-40 Clinton St., Newark, N. J.			
At: Newark City Hospital	Surgical Technique and Principles of Abdominal Surgery	February 8, 20 weeks, part time	200.00
At: Kessler Institute for Rehabilitation	Amputations	February 6, 10 weeks, part time	50.00
Columbia University, 630 W. 168th St., New York 32, N. Y.			
At: Columbia Presbyterian Medical Center and Affiliated Hospitals	Recent Developments in Surgery (Surgery PM 100) [35]	May 12-16, full time	50.00
Joint Committee on Post-Graduate Education, 1313 Bedford Ave., Brooklyn 16, N. Y.			
At: St. John's Episcopal Hospital	Office Surgery	April, 8 weeks, part time	20.00
New York Medical College, Flower and Fifth Ave. Hospitals, 20 E. 106th St., New York 29, N. Y.	Gastrointestinal Surgery	Arranged	200.00
	Thoracic Surgery	Spring, 3 weeks, full time	325.00
	Surgical Technique	Arranged, part time	375.00
	Surgical Aspects of Peripheral Vascular Diseases	Arranged	200.00
	Combined Surgical Course, Including Cadaver Surgery and Gynecology	January and April, 3 months, full time	300.00
	Clinical Surgery	January and April, 6 weeks, full time	100.00
New York Polyclinic Medical School and Hospital, 345 W. 50th St., New York 19, N. Y.	Clinical and Operative (Cadaver) Surgery	January and April, 6 weeks, full time	200.00
	Traumatic Surgery, Including General Surgery, Orthopedic Surgery and Physical Medicine	Arranged, 2 months, part time	200.00
	Treatment of Varicose Veins	Arranged, 4 weeks, part time	50.00
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y.	Surgery of the Head and Neck	January 7-11, full time	Not given
At: Bellevue Hospital	660-A Anatomy and Physiology of the Autonomic Nervous System and Their Clinical Application	January 14-19, full time	150.00
At: Bellevue and University Hospitals	661-B Review of General Surgery (for Specialists) [43]	March 31-April 26, full time	300.00
At: Beekman-Downtown, Gouverneur, Bellevue and University Hospitals	667-A Surgery of the Hand	March 24-29, full time	90.00
At: Beekman-Downtown, Gouverneur and Bellevue Hospitals	668-A Diagnosis and Treatment of Fractures and Dislocations	February 4-16, full time	125.00
At: Beekman-Downtown and Bellevue Hospitals	669-A Surgery of Trauma	April 3-June 5, part time	100.00
At: University Hospitals	662-A The Basic Problems in Cancer Therapy for Surgeons (for Specialists) [43]	January 21-February 2, full time	200.00
University of Oklahoma School of Medicine, Oklahoma City, Okla.	Review of General Surgery and Surgical Technique	March 11-May 13, part time	25.00
University of Oregon Medical School, 3181 S. W. Sam Jackson Park Rd., Portland 1, Ore.	General Surgery	March 10-14, full time	50.00
University of Texas Postgraduate School of Medicine, 207-A Hermann Professional Bldg., Houston, Texas			
At: Scott and White Memorial Hospitals	Surgery of the Gastrointestinal Tract	March 24-27, full time	Not given
University of Texas Postgraduate Division, Medical Branch, Galveston, Texas	Traumatic Surgery	January 7-11, full time	25.00

References will be found on page 1489.

Postgraduate Continuation Courses for Physicians—Jan. 1, 1952 to July 15, 1952—Continued

Institution	Title of Course	Schedule of Course	Registration Fee and/or Tuition
	THERAPY		
University of Oregon Medical School, 3181 S. W. Sam Jackson Park Rd., Portland 1, Ore.	Applied Therapeutics	February 18-22, full time	$50.00
University of Texas, Postgraduate School of Medicine, 207-A Hermann Professional Bldg., Houston, Texas At: Robert B. Green Memorial Hospital	Modern Therapeutics	January 4-April 11, part time	25.00
	TROPICAL MEDICINE		
New York University Postgraduate School of Medicine, 477 First Ave., New York 16, N. Y.	Tropical Medicine	January 7-February 29, full time	Not given
	UROLOGY		
College of Medical Evangelists, Boyle and Michigan Aves., Los Angeles 33, Calif. At: Osler House	General Urology	January 2-February 27, part time	35.00
Cook County Graduate School of Medicine, 427 S. Honore St., Chicago 12, Ill.	Two Week Intensive Course in Urology	April 28, full time	225.00
State University of Iowa College of Medicine, Iowa City, Iowa	Urology Monthly Conference	2d Wednesday of every month	None
University of Kansas Medical Center, Kansas City, Kan.[1]	Diagnostic Urology	January 24-February 28, part time	25.00
American Urological Association, 102-110 Second Ave., S. W., Rochester, Minn. At: Hotel Windsor, Montreal, Canada	Urological Postgraduate Seminar	January 7-12, full time	Not given
New York University Post-Graduate Medical School, 477 First Ave., New York 16, N. Y. At: Bellevue and University Hospitals	671-A Advanced Course in Urology (for Specialists)	March 31-April 26, full time	175.00
	VENEREAL DISEASE		
United States Public Health Service Medical Center, Hot Springs, Ark.	18th Venereal Disease Postgraduate Course	April 14-18, full time	None
U. S. Public Health Service, Atlanta, Ga. At: Venereal Disease Research Laboratories	Treponema Pallidum Immobilization Test	May 19-23, 1 week, full time	None
	Laboratory Diagnosis of Venereal Diseases	May 12-16, full time	None
	Serology of Syphilis	January 14-25, March 10-21, April 14-25, May 12-23	None
Wayne University College of Medicine, 1512 St. Antoine St., Detroit, Mich. At: Social Hygiene Clinic	Conference on Venereal Diseases	Quarterly, part time	15.00
Institute for the Study of Venereal Disease of the University of Pennsylvania, 34th and Locust Sts., Philadelphia 4, Pa.	Six Months Essential Basic Training Course	Arranged, full time	Arranged
	Four Week Intensive Review Course	Arranged, full time	Arranged
	Three Week Intensive Review Course	Arranged, full time	Arranged
	Ten Day Refresher Course	Arranged, full time	Arranged

1. Also sponsored by Kansas Medical Society, Topeka, and the Kansas State Board of Health, Topeka.

2. Course limited to one student.

3. Formal basic science courses in preparation for specialty board certification.

4. These are basic courses in medicine, surgery, anesthesiology, obstetrics and gynecology, otolaryngology, pathology, pediatrics, radiology and urology.

5. Also sponsored by the Indiana Heart Foundation.

6. Plus $5.00 registration fee.

7. Also sponsored by the Minnesota Heart Association.

8. $20.00 for physicians within the area (i. e.), Cuyahoga, Geauga, Lake, Lorain and Ashtabula counties.

9. Also sponsored by the Connecticut State Medical Society.

10. Also sponsored by the Kettering Laboratory.

11. Second half of course from January 10-April 17.

12. Also sponsored by the Indiana Cancer Society.

13. Also sponsored by the Vermont State Cancer Society, Montpelier, Vt.

14. Also sponsored by University of Chicago, University of Illinois., Northwestern University, Stritch School of Medicine and Chicago Medical College.

15. Also sponsored by M. S. M. S., Wayne University and Michigan Department of Health.

16. Membership in the Missouri State Medical Association, plus guest.

17. Membership in the Missouri State Medical Association.

18. These courses are prepared for the benefit of G. P.'s who want concentrated instruction in a location easily accessible to them.

19. $15.00 for nonmembers of A. A. G. P. or Southwestern Ohio Society of G. P.

20. Only alumni of the Jefferson Medical College are eligible to enroll.

21. $10.00 to all M.D.'s not members of the Philadelphia County Medical Society.

22. For physicians in Texas.

23. For physicians in G. P. or specialties other than psychiatry.

24. For psychiatric residents.

25. Sponsored by Massachusetts Department of Mental Health, 15 Ashburton Pl., Boston, Mass.

26. The stated two week period may be followed by additional studies at $100 per week. The course may also be taken by Philadelphia area physicians on six consecutive Thursdays, 30 hours at $150.00.

27. Limited to specialists in EENT.

28. One month, $150.00; 3 months, $250.00; 6 months, $450.00; 9 months, $650.00; 12 months, $850.00.

29. Also sponsored by State Department of Health.

30. For ENT diplomates.

31. Also sponsored by the N. F. I. P., 120 Broadway, New York City.

32. Also sponsored by Albany Medical College, Albany, New York.

33. Given in conjunction with the American College of Chest Physicians and A. A. G. P.

34. Two weeks, $110.00; 1 month, $200.00; 2 months, $300.00.

35. For qualified general surgeons.

36. (*a*) Attendance is encouraged from Regular, Reserve or National Guard Medical Officers of the Armed Forces on active duty, at government expense. Attendance will be considered on a space available basis and at the individual's own expense from individuals in the following priority: (A) medical officers of the Armed Forces not on active duty; (B) physicians and surgeons from other Federal Agencies; and (C) civilian physicians.

(*b*) Application procedure: Applications should be forwarded, so as to reach the addressee listed below not later than one month prior to the opening date of the course;

1. Applications from Army Medical Officers on active duty, will be forwarded to the Office of the Surgeon General, Department of the Army, Washington 25, D. C., Attention: Personnel Division, Career Management Branch.
2. Applications from medical officers from other branches of the Armed Forces should be forwarded through channels as appropriately announced.
3. All other applications should be forwarded to the appropriate Hospital Commander of the installation offering the courses. Applications will be approved on a space available basis.

(*c*) For specialists only, i. e., Chiefs or Assistant chiefs of services or officers well advanced toward certification.

(*d*) Course designed to be of interest to both the specialist or general practitioner.

(*e*) The course is open to (1) ophthalmologists, (2) pathologists.

37. Sponsored by N. C. State Board of Health, scholarships awarded by North Carolina State Board of Health.

38. Qualified Psychiatric Professionals.

39. Qualified Psychiatric Professionals who have had a personal psychoanalysis plus at least 5 years of Psychotherapeutic experience.

40. For specialists.

41. Also sponsored by Oregon Academy of Ophthalmology and Otolaryngology, 1216 S. W. Yamhill Rd., Portland.

42. Two weeks $110.00, 1 month $200.00 and 2 months $300.00.

43. Applications must be accompanied by a list of surgical operations performed in the past six months, with the following information concerning each; hospital number, nature of operation, deaths, complications and end results.

MEDICAL MOTION PICTURES

Breakdown: 16 mm., black and white, sound, showing time 42 minutes. Produced in 1951 for the Mental Health Authorities of the Provinces of Canada by the National Film Board of Canada. Procurable from the National Film Board of Canada, 400 W. Madison St., Chicago 6, and 1270 Avenue of the Americas, New York 20.

This film deals with a young girl's schizophrenic breakdown: its onset and development, the effect on her family and her friends, her hospitalization in a modern mental hospital, and eventual discharge as recovered. Hospital scenes show an ideal mental hospital where modern methods of treating the emotionally ill are demonstrated and discussed. An appeal to the public is made for greater understanding of mental illness and the need for removal of the stigmas traditionally attached to mental illnesses. The objective of the film is to point out that mental illness can happen to anyone and that with known treatment technics it can be cured. The producers of this film adhere faithfully and consistently to their aim and within the limits of the running time of the film present a convincing story.

All the characters are well portrayed, and the portrayal of the schizophrenic is particularly excellent. The various scenes are appropriate and enhance the content of the narrator's message. The use of the family doctor as a source of information is particularly good; it shows the need for the general practitioner to become more informed regarding the problem of mental illness. What can be done toward the care, comfort, and eventual recovery of patients in a good mental hospital is well illustrated. Hospital scenes show an ideal mental hospital that is adequately staffed and where modern treatment technics are demonstrated and discussed. The film did not bring out that, as yet, treatment facilities as shown are rare. The hospital situation portrayed represents an ideal setup, rather than what one can expect in most mental hospitals.

The film is too elementary for use with professional persons in mental health work. However, psychiatrists, psychologists, and others in allied professions can use the film to good advantage when they are called on to present mental health information to special interested groups. The film is also recommended for county and state medical meetings and for college students in medical, nursing, social work, and psychology departments. The photography and narration are very well done.

Your Children's Eyes: 16 mm., black and white, sound, showing time 19 minutes. Produced in 1945 by Realist Film Unit. Procurable from British Information Service, 30 Rockefeller Plaza, New York 20.

This film describes the anatomy and physiology of the eye. It explains in a descriptive manner common defects such as short and long sightedness and other diseases of the eye. The rules to be followed for the maintenance of healthy eyesight are outlined, and it is pointed out that medical advice should be sought in cases of organic defects or diseases.

The illustration of the anatomy of the eye is accomplished in a very superior and clear manner by the use of a whole orange and its parts to simulate the structure of the eye. The presentation is technically accurate as well as interesting. It is suggested that this film be used in two parts, the first part containing the anatomy and disorders of the eye and the second part the treatment of disorders.

The first part is recommended for use on the intermediate and secondary school level, but the entire film would be of interest to adults. The photography and narration are well done.

Transabdominal Vagotomy with Gastro-Enterostomy: 16 mm., color, silent, showing time 33 minutes at sound speed. Produced in 1951 by and procurable on loan or purchase from Philip Thorek, M.D., 25 East Washington Street, Chicago 2.

This motion picture shows the technic of performing transabdominal vagotomy and gastroenterostomy for duodenal ulcer. The first reel consists largely of anatomic drawings clearly illustrating important points in the surgical anatomy of this combined surgical procedure. A brief case report is also included. The second and third reels show the actual performance of vagotomy and gastroenterostomy on a patient, supplemented with appropriate illustrations. The surgical procedures are clearly shown and well presented. The film is rather long and could be edited to advantage. It can be recommended to demonstrate surgical anatomy and technic to medical students, interns, residents, and surgeons. The drawings are well done; however, some of the legends are difficult to read. Otherwise the photography is good.

Clinical Use of Hyaluronidase: 16 mm., color, sound, showing time 33 minutes. Produced in 1951 at Columbia University College of Physicians and Surgeons at Presbyterian Hospital, New York, by Worcester Film Corporation, Worcester, Mass. Procurable on loan from Wyeth, Incorporated, 1401 Walnut St., Philadelphia 2.

This is a scientifically accurate presentation of the known facts concerning the clinical use of hyaluronidase, which is an elective adjunct to the administration of parenteral fluids, local anesthetics, and other drugs. Although some of the demonstrated uses are presented in an appealing manner, the practical application of some of these procedures would be limited. Therefore, the film is recommended for showing to groups interested in the clinical applications of the enzyme hyaluronidase, and it would be of interest to general practitioners as well as surgeons. However, data are presented which would be difficult to study without a supplementary brochure. The picture is very well organized, and the photography, animation, and narration are excellent.

MISCELLANY

Factors in the Decrease in Infant Mortality.—According to the *Statistical Bulletin*, Metropolitan Life Insurance Company, August, 1951, infant mortality in the United States has been cut by about one-half in little more than 15 years. In 1933-1934, when nation-wide data first became available, the death rate among children under 1 year of age averaged 59 per 1,000 live births; by 1948 the rate had dropped to 32 per 1,000, and now it is somewhat under 30. Virtually all the major causes of infant mortality have shared in the improvement. However, the extent of the gains for the individual causes vary widely.

The infectious diseases have shown the greatest reductions in mortality. The death rate in infancy from the principal communicable diseases of childhood (especially whooping cough), syphilis, and tuberculosis, dropped 75% or more between 1933-1934 and 1948, the latest year for which detailed data are available. For diarrhea and enteritis the reduction was nearly 70%, and for pneumonia and influenza more than 60%. The principal factors in the better control of the major infections in infancy have been the widespread use of chemotherapy and the antibiotics, immunization and other preventive measures, improved infant feeding and care, the increased use of the hospital for confinement and illness, and the marked rise in the standard of living.

The death rate from premature birth and from congenital debility and "other diseases peculiar to the first year of life" dropped nearly one-third in the period under review. Even the mortality from congenital malformations decreased 14%. These reductions have resulted mainly from the better health of mothers during pregnancy and from improved care of babies immediately after birth.

The death rate from accidents has failed to show any decline. The facts on accidents in infancy are not altogether reliable. Deaths ascribed to mechanical suffocation, which constitute almost one-half of the accident total under age 1, are often due to undiagnosed respiratory illness. There is, nevertheless, need to strengthen the safety program for babies.

Premature birth continues to be the major problem, far outranking every other cause of infant mortality. The attention now being focused on this problem by medical and public health agencies encourages the belief that prematurity will be further reduced as a cause of infant death.

MEDICAL LITERATURE ABSTRACTS

UNITED STATES

American Heart Journal, St. Louis

42:321-482 (Sept.) 1951

Clinical Evaluation of Ballistocardiogram: I. Normal Subjects. L. Pordy, R. C. Taymor, M. Moser and others.—p. 321.
Id.: II. Heart Disease—Hypertension, Angina Pectoris, and Myocardial Infarction. K. Chesky, M. Moser and R. C. Taymor.—p. 328.
Postoperative Changes in Cardiac Output. T. C. Fleming, D. V. Habif and J. L. Nickerson.—p. 334.
Study of Value of Roentgenologic Demonstration of Valvular Calcifications. P. D. Genovese and R. T. Levin.—p. 344.
Detection of Unsuspected Heart Disease in Photofluorographic Chest Surveys. A. Selzer, M. B. Harrison and G. T. Daniloff.—p. 355.
Angiocardiography in Localization of Foreign Bodies in Heart. E. M. Goyette and M. M. Keirns.—p. 362.
Spatial Vectorcardiography: Right Ventricular Hypertrophy as Seen in Congenital Heart Disease. VII. R. P. Lasser, E. R. Borun and A. Grishman.—p. 370.
Differentiation Between Paroxysmal Auricular Tachycardia with Partial A-V Block and Auricular Flutter. E. Simonson and R. Berman.—p. 387.
Action of Procaine Amide on Heart. A. M. Wedd, H. A. Blair and R. S. Warner.—p. 399.
*The Myth of Strict Bed Rest in Treatment of Heart Disease. S. A. Levine.—p. 406.
Cure of Patient with Very Resistant Streptococcus Viridans Endocarditis with Massive Penicillin Therapy (Average Daily Dose of 86 Million Units). R. L. Whipple Jr.—p.—p. 414.
*Life History of 100 Patients with Hypertensive Vascular Disease. G. A. Perera.—p. 421.
Eisenmenger's Complex: Report of Two Cases and Review of Cases with Autopsy Study. V. F. Bond Jr.—p. 424.
Congenital Heart Disease in Pregnancy. A. Kerr Jr. and W. A. Sodeman.—p. 436.
New Electrocardiographic Limb Electrode. E. Simonson.—p. 445.

The Myth of Strict Bed Rest in Heart Disease.—There is clinical and physiological evidence that strict bed rest is deleterious to patients with congestive heart failure. If heart failure is present, the heart obtains more rest when the patient is in a chair with the feet down than while he is recumbent in bed, even if the head and back are elevated. Most patients with threatened or evident congestive heart failure should be treated, not in bed, but in a comfortable chair, and when they do go to bed at night to sleep, 8 to 9 inch blocks should be placed under the headposts to encourage gravity to keep body fluids in the legs rather than in the lungs. This principle has also been applied in the treatment of acute coronary thrombosis. The author observed a mortality of only 10% a group of 70 patients with acute coronary thrombosis who were placed in chairs for varying and increasing periods of the day beginning not later than the first week of the attack. The results of this method of treatment seem encouraging and appear to have both physical and psychic advantages over the strict bed rest method of treatment.

Hypertensive Vascular Disease.—Statistical information has been gathered concerning the life history of 100 patients followed from the time of onset of hypertension until death. The group included 38 men and 62 women. Twenty-six of the patients had a family history of hypertensive vascular disease. In four patients the onset of hypertension was associated with pregnancy. The average age of onset of hypertension was 32 and the average age at death was 51. Thus hypertensive vascular disease usually begins in early adult life and has an average duration of close to two decades. Although 24 of the women had pregnancies during the period of observation, in only 4 was there any evident relationship between pregnancy and the onset of disease. As hypertension may have preceded conception in two patients in whom the last normotensive readings had been many months before, these data suggest that sustained elevations of blood pressure after a pregnancy are indicative generally of antecedent disease. The primary cause of death was not known in 41 of the patients. Congestive failure was the primary cause of death in 19 patients, cerebral vascular accident in 17, myocardial infarction in 7, uremia in 6, arteriosclerotic aneurysm of the aorta in 3, and miscellaneous unrelated causes in 7. Multiple complications are more frequent than single ones, and the time of onset and the intensity of any given complication vary enormously. Nevertheless, measured in terms of single complications, the average survival period was five or more years in each instance, except in patients with cerebral vascular accidents or papiliedema or nitrogen retention.

American Journal of Ophthalmology, Chicago

34:1217-1350 (Sept.) 1951

Etiology and Treatment of Phlyctenular Keratoconjunctivitis. P. Thygeson.—p. 1217.
Anatomic Study of Periphery of Retina: Part I. Nonpigmented Epithelial Cell Proliferation and Hole Formation. C. C. Teng and H. M. Katzin.—p. 1237.
Pathology of Retinopathy of Prematurity: Retrolental Fibroplasia. P. Heath.—p. 1249.
*Retrolental Fibroplasia: Evaluation of Several Changes in Dietary Supplements of Premature Infants with Respect to Incidence of Disease. V. F. Kinsey and J. F. Chisholm Jr.—p. 1259.
Human Galactosemia Cataract: Report of Case. J. H. Enns.—p. 1268.
Galactosemia Cataract: Report of Case. H. F. Falls, G. H. Lowrey and W. C. Anderson Jr.—p. 1271.
Treatment of Retinoblastoma by Diathermic Coagulation. C. A. Perera.—p. 1275.
Macular Lesions of Vascular Origin. B. A. Klien.—p. 1279.
Ocular Symptoms of Stellate Ganglion Block: Its Use in Treatment of Occlusion of Central Retinal Artery. T. O. Coston.—p. 1289.
Photophobia: Mechanism and Implications. J. E. Lebensohn.—p. 1294.
Influence of Microwaves on Certain Enzyme Systems in Lens of Eye. L. Daily Jr., E. A. Zeller, K. G. Wakim and others.—p. 1301.
Surgical Treatment of Esophoria. G. R. Stine.—p. 1307.

Retrolental Fibroplasia: Evaluation of Dietary Supplements.—While both clinical and experimental investigations now indicate that retrolental fibroplasia does not result from vitamin A deficiency in either the mother or infant, recent data still suggest that nutritional factors may play a causal role. Observations reported in this paper indicate that withdrawal of the water-miscible multiple vitamin preparation and iron used as supplements to the diet of premature infants weighing less than 4 lb. (1,814.37 gm.) at birth and substitution of only vitamins D and C in water-miscible form were without apparent effect on the incidence of retrolental fibroplasia. Administration of *dl*-alpha-tocopherol acetate in daily doses ranging from 30 to 150 mg. to premature infants at the time the eyes showed vascular changes characteristic of the early stages of retrolental fibroplasia did not reduce the incidence of the severe form of the disease significantly. Of the premature infants given 50 mg. of *dl*-alpha-tocopherol acetate prophylactically from birth three times a day vascular changes developed in 56%, and vitreous and retinal changes associated with retrolental fibroplasia also developed in 40%. Of the infants given *dl*-alpha-tocopherol acetate from birth the severe form of the disease involving membrane formation developed in 5%, as compared with 11% who did not receive *dl*-alpha-tocopherol acetate prophylactically. This difference in incidence is of doubtful significance. The average plasma level of vitamin E in infants at birth was found to be 0.6 mg. per 100 cc., suggesting that premature infants are not particularly deficient in vitamin E. No correlation was observed between the plasma level of vitamin E in the premature infant and the incidence of retrolental fibroplasia. The large proportion of patients who recover, apparently spontaneously, from retrolental fibroplasia suggests the need for caution in evaluating forms of therapy.

The Association library lends periodicals to members of the Association and to individual subscribers in Continental United States and Canada for a period of five days. Three journals may be borrowed at a time. Periodicals are available from 1940 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied with stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but can be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

An asterisk (*) before a title indicates that the article is abstracted.

American Journal of Physiology, Baltimore

166:229-492 (Aug.) 1951. **Partial Index**

Significance of Crossed Phrenic Phenomenon. L. J. Lewis and J. M. Brookhart.—p. 241.
Role of Vagus in Control of Respiration. E. Bozler and B. H. Burch. —p. 255.
Changes in Water and Electrolytes of Cardiac Muscle Following Epinephrine. W. V. B. Robertson and P. Peyser.—p. 277.
Liberation of Nor-Adrenaline and Adrenaline from Suprarenals of Cat During Carotid Occlusion. F. Kaindl and U. S. von Euler.—p. 284.
Effect of Atrial Systole on Ventricular Pressure and Closure of A-V Valves. R. C. Little.—p. 289.
Fluorimetric Studies on Epinephrine and l-Arterenol in Plasma. J. H. Heller, R. B. Setlow and E. Mylon.—p. 304.
Determination of Adrenergic Substance in Blood Related to Anxiety: Identification as Nor-Adrenaline. M. F. Fleetwood.—p. 314.
Hematology of Dog Following Intravenous Administration of Radioactive Colloidal Gold. B. Wheeler, M. A. Jackson and P. F. Hahn. —p. 323.
Endocrine Control of Inflammation: Effect of Hormones on Anaphylactic Arthritis. G. Ungar, E. Damgaard and H. G. Weinstein.—p. 340.
Relation of Purified Pituitary Growth Hormone and Insulin in Regulation of Nitrogen Balance. A. E. Milman, P. DeMoor and F. D. W. Lukens.—p. 354.
Alloxan Diabetes in Albino Rat as Influenced by Sex. E. F. Beach, P. J. Bradshaw and N. R. Blatherwick.—p. 364.
Effect of Whole Body X-Irradiation on Serum Iron Concentration of Rats. A. Chanutin and S. Ludewig.—p. 380.
Metabolism of Calcium in Normal, Rachitic and Vitamin D-Treated Rats as Evidenced by Radiocalcium Ca^{45} Studies. E. Underwood, S. Fisch and H. C. Hodge.—p. 387.
Effects of High Altitude and Cobalt on Growth and Polycythemia in Rats. E. W. Cohn and F. E. D'Amour.—p. 394.
Serum Lipase Activity in Experimental Acute Hemorrhagic Pancreatitis. L. Persky, H. A. Ravin, S. Jacob and A. M. Seligman.—p. 413.
Preparation of Pancreas Derivative Having Lipotropic Activity. D. K. Bosshardt, L. S. Ciereszko and R. H. Barnes.—p. 433.
Intestinal Lymph as Pathway for Transport of Absorbed Fatty Acids of Different Chain Lengths. B. Bloom, I. L. Chaikoff and W. O. Reinhardt.—p. 451.
Effect of Vagotomy on Gastric Secretion and Emptying Time in Dogs. F. Antia, C. E. Rosiere, C. Robertson and M. I. Grossman.—p. 470.

American Journal of Psychiatry, New York

108:161-240 (Sept.) 1951. **Partial Index**

Criticism of Terms "Psychosis," "Psychoneurosis," and "Neurosis." K. M. Bowman and M. Rose.—p. 161.
Survey of Conditions of Private Psychiatric Practice Throughout the United States and Canada. W. Muncie and E. G. Billings.—p. 171.
Survey of Szondi Research. W. H. Guertin and H. G. McMahan.—p. 180.
Psychiatric Observations Under Severe Chronic Stress. V. A. Kral. —p. 185.
Toward Unification of Training in Psychiatry and Psychoanalysis. H. W. Potter and H. R. Klein.—p. 193.
The Psychiatrist as Advisor and Therapist for Medical Students. R. N. Kohl.—p. 198.
Intensive Electroshock Treatment with Reiter Apparatus. J. Frosch, D. Impastato and S. B. Wortis.—p. 204.

American Surgeon, Atlanta, Ga.

17:797-890 (Sept.) 1951

Surgical Treatment of Complicated Duodenal Ulcer. R. L. Sanders. —p. 797.
Dynamic Factors in Medullary Pinning of Fractures. L. V. Rush.—p. 803.
Attempted Abortion with Rupture of Uterus: Report of Case in Which Uterus Was Repaired. C. S. Glisson Jr. and W. W. Daniel.—p. 809.
Diagnosis and Treatment of Carcinoma of Rectosigmoid and Anorectal Areas. M. M. Ravitch.—p. 811.
Tuberculosis of Bones and Joints in Children. W. L. Minear.—p. 825.
Cancer of Cervical Stump: Plea for Its Early Recognition and Prevention. R. R. Braund and C. R. Green.—p. 830.
Talcum Powder Granuloma. F. H. Kidd Jr. and B. Wilson.—p. 837.
Primary Torsion of Omentum. R. M. Pool.—p. 841.
Adenomyoma of Pylorus Seen at Autopsy Two Years After Operation for Pyloric Stenosis in a Newborn Girl Baby. F. J. Waas, B. J. McCloskey and E. J. Sullivan.—p. 844.
*Prevention of Lymphedema of Upper Extremity After Radical Mastectomy: Preliminary Report. J. M. Parker.—p. 849.
Diagnosis and Surgical Treatment of Intracranial Aneurysms. J. Martin. —p. 853.
1951—Medicine's First Year of Grace: Convocation Address. E. L. Henderson.—p. 859.
Streptomycin Treated and Control Thoracoplasties: Follow-Up Study of 1947 Series. J. D. Murphy and H. E. Walkup.—p. 865.
Combined Retrograde and Fundal Dissection of Gallbladder in Cholecystectomy. M. B. Welborn.—p. 873.

Prevention of Lymphedema of Arm After Mastectomy.—Parker applied a snug compression bandage to the arm in 50 consecutive patients who were subjected to radical mastectomy in the course of the last three years. This bandage was left in place for eight weeks. The arm is bound to the chest by a modified Velpeau bandage until the fourth postoperative day, when the elastic compression bandage is applied. The extremity is wrapped from the distal flexor crease of the palm to as high as the breast dressing will permit. The bandage must be applied snugly enough to prevent any subsequent swelling or to obliterate any early postoperative edema. Some of the earlier patients have now been followed for three years or longer and in no instance did noticeable swelling of the arm occur in those who wore the bandage continuously during the eight-week period. In two patients, who inadvertently removed the bandage after four and five weeks respectively, edema of the arm developed. This substantiates the assumption that there is a critical period of approximately eight weeks, when compression bandaging of the arm will prevent the development of edema.

Annals of Surgery, Philadelphia

134:145-288 (Aug.) 1951

Peripheral Nerve Surgery: Results of 281 Cases Followed Six to 24 Months. E. G. Grantham and C. Pollard Jr.—p. 145.
Carcinoma of Breast: III. Results of Treatment, 1935-1942. C. D. Haagensen and A. P. Stout.—p. 151.
*Effects of Electric Currents on Canine Heart with Particular Reference to Ventricular Fibrillation. R. S. Mackay, K. E. Mooslin and S. E. Leeds.—p. 173.
Dupuytren's Contracture: Clinical Review. J. A. Ross and J. H. Annan. —p. 186.
Benign Tumors of Small Bowel. J. D. Olson, M. B. Dockerty and H. K. Gray.—p. 195.
Fate of Buried Full-Thickness Skin: Experimental Study. D. B. Gray, A. R. Mansberger Jr., and G. H. Yeager.—p. 205.
Revascularization of Brain Through Establishment of Cervical Arteriovenous Anastomosis: Effects in Adult Institutionalized Patients with Psychosis with Organic Brain Disease. G. Perrine, J. R. Reed, D. W. Belnap and M. B. Gordon.—p. 210.
Cardiac Arrest During Anesthesia: Review of Cases. R. Ament, E. M. Papper and E. A. Rovenstine.—p. 220.
Radical Treatment of Massive Mixed Angiomas (Hemolymph Angiomas) in Infants and Children: With Report of Hemipelvectomy in a 13-Day-Old Infant. M. M. Ravitch.—p. 228.
Lipoma of Bronchus and Lung: Report of Two Unusual Cases. A. S. W. Touroff and G. P. Seley.—p. 244.
Syphilitic Aneurysm of Subclavian Artery. R. A. Daniel Jr.—p. 251.
Giant Hypertrophic Gastritis: Its Surgical and Pathologic Significance. L. T. Palumbo, G. M. Rugtiv and K. R. Cross.—p. 259.
Emphysematous Cholecystitis: Report of Case with Successful Treatment. W. C. Retterbush, M. B. Fishman, W. A. Baird and J. I. Collins.—p. 268.
Traumatic Retroperitoneal Rupture of Duodenum. R. B. Newell, G. R. Rosenbaum and N. M. Canter Jr.—p. 277.
Simple Ulcer of Cecum. S. Liptom and E. D. Reisman.—p. 279.
Gastrojejunitis Following Gastro-Enterostomy Performed in Infancy for Congenital Pyloric Stenosis. E. J. Donovan, G. Knox and V. T. Floyd. —p. 283.

Effects of Electric Currents on Canine Heart: Ventricular Fibrillation.—Studies were undertaken to investigate some of the effects of electric currents on the canine heart with particular reference to ventricular fibrillation. Another aim was to determine the optimal current or currents required to stop ventricular fibrillation and to examine the range of currents that would produce and stop this arrhythmia. It was hoped that the design of a more useful and effective defibrillation apparatus could be obtained. Observations were also made on the effects of preoperatively administered quinidine on the production and cessation of ventricular fibrillation. Approximately 500 alternating current electric shocks of varying intensity and duration were applied across the exposed heart of 16 dogs. The average resistance of the dog's heart was found to range from 45 to 60 ohms, with an over-all average of 51 ohms. This resistance was found to depend on the applied voltage, on the amperage, and somewhat on the duration of the impulse. It was found that currents of low value need be of long duration to produce fibrillation, while currents of high value can be of either short or long duration to stop ventricular fibrillation. Currents varying from 0.09 to 0.4 amp. induced ventricular fibrillation but in no instance produced defibrillation. Currents of 1.5 to 3.8 amp. stopped fibrillation, and in no instance did they induce it. The change from a fibrillating to a defibrillating current value was found to occur at about 1 amp. A series of three to five 110 volt A. C. shocks of 0.1 second duration applied at 0.5 to 1.0 second intervals seemed to produce the optimum defibrillating shock.

The authors describe a practical defibrillating unit devised on the basis of their experimental data. The preoperative administration of quinidine has proved helpful in decreasing the incidence of ventricular fibrillation and in facilitating defibrillation.

Blood, New York

6:777-866 (Sept.) 1951

Method of Measuring Severity of Series of Cases of Hemolytic Disease of Newborn. P. L. Mollison and M. Cutbush.—p. 777.

*Studies in Rh Sensitization: III. Effect of Rh-Positive Pregnancies on Rh Antibody Titer. A. S. Wiener, R. Nappi and E. B. Gordon. —p. 789.

*Id.: IV. Persistance of Rh Antibodies in Serum of Sensitized Individuals. A. S. Wiener, R. Nappi and E. B. Gordon.—p. 799.

*Use of Adrenocorticotropic Hormone and Cortisone in Treatment of Leukemia and Leukosarcoma. M. C. Rosenthal, R. H. Saunders, L. I. Schwartz and others.—p. 804.

Splenic Arteriovenous Differences in Blood Cells During Hematologic Reaction to Adrenal Cortical Stimulation. D. H. Solomon and S. R. Humphreys.—p. 824.

Tail Blood Eosinophil Levels in Several Inbred Strains of Mice Under Standard Conditions. F. Halberg, J. J. Bittner and M. B. Visscher. —p. 832.

Effect of Dicumarol on Co-Thromboplastin, Factor in Blood Concerned with Conversion of Prothrombin to Thrombin. F. D. Mann, N. W. Barker and M. Hurn.—p. 838.

Effect of Rh-Positive Fetus on Maternal Rh Antibody Titer.—Rh antibody titrations were carried out on 65 sensitized Rh-negative pregnant women carrying Rh-positive fetuses. Considering that a rise in antibody titer antenatally could result only from a leakage of fetal blood into the maternal circulation, observations indicated that such a leakage occurs in about one out of every three or four normal pregnancies. Determinations of Rh antibody titer in 56 cases two weeks after the delivery as well as antenatally revealed that fetal blood leaks into the maternal circulation in about one out of three deliveries. Since approximately 40% of Rh-negative persons can be sensitized by two injections of Rh-positive blood spaced four months apart, it can be calculated that in Rh-negative women who have received a previous injection of Rh-positive blood there is about 1 chance in 12 or 13 that the first baby will be erythroblastotic. In women who have never received any injection of blood that might sensitize them, the chance that the first baby will be erythroblastotic is negligible, because for this to occur it would be necessary for blood to leak into the maternal circulation antenatally on at least two occasions spaced four months apart, once to prime the patient and the second time to stimulate the appearance of antibodies. This never occurred in the authors' series of cases. It was also calculated that in Rh-negative primiparas who have never received an injection of Rh-positive blood the chance of Rh antibodies appearing after the birth of an Rh-positive baby is approximately 2 out of 45; other investigators reported an occurrence in 2 out of 65. It was further calculated that in Rh-negative women who had never received an injection of Rh-positive blood, the chance of their second baby being erythroblastotic is about 1 in 20, which agrees well with the clinical observations. Five cases are described in detail in order to illustrate the value of periodic antenatal Rh antibody titrations in the management of sensitized Rh-negative women.

Persistance of Rh Antibodies in Serum of Sensitized Persons.—Periodic Rh antibody titrations were carried out over a period of one to four years in 60 sensitized Rh-negative women, in the absence of additional exposure to Rh antigen. Results showed that once a person has become sensitized to the Rh factor, Rh antibodies are demonstrable in the serum for periods of at least four years, provided that the techniques used are sufficiently sensitive, such as the tests with enzyme-treated cells. In several of these women the history indicated that Rh sensitization had occurred many years previously, without any further exposure to the Rh antigen. A case is reported in which antibodies were found in the serum of an Rh-negative woman who had never received an injection of blood and who had had her last pregnancy 22 years previously. The authors' observations suggest that, once a person has become sensitized to the Rh factor, the antibodies persist in the body for the remainder of the person's life.

Corticotropin and Cortisone in Leukemia and Leukosarcoma.—Forty-two patients with various diseases of leukocytic proliferation were treated with one or more courses of corticotropin (ACTH) or cortisone. Corticotropin was given to adults in doses of 15 or 20 mg. subcutaneously every six to eight hours; smaller doses were used in children. The dosage of cortisone ranged from 100 to 150 mg. daily, either intramuscularly or orally. Of 15 patients with acute or subacute lymphocytic leukemia, 2 died after only a few days of the institution of treatment, while of the remaining 13 who received adequate courses of treatment, there was objective and hematological evidence of well-defined remissions lasting 1 to 10 weeks in 9 (69%). Retreatment produced further remissions, but an eventual state of refractoriness was reached. Treatment must be intensive and prolonged. Of five patients with acute granulocytic leukemia, only one showed a slight clinical improvement with therapy. An actual acceleration of the process occurred in two patients. Two patients with acute monocytic leukemia did not respond to the treatment, and death seemed to be hastened. Of five patients with chronic lymphocytic leukemia, four were distinctly improved, particularly those with terminal leukemia with anemia, exfoliative dermatitis, or symptomatic hemolytic anemia. Of five patients with lymphosarcoma, all showed some degree of improvement. Features benefited were enlargement of liver, spleen or lymph nodes, symptomatic hemolytic anemia, and anemia. Of five patients with terminal Hodgkin's disease, three were notably benefited, particularly with respect to constitutional symptoms. There was, however, no fundamental alteration of the disease process. Only one of the five patients with multiple myeloma responded favorably to treatment; hyperglobulinemia and Bence-Jones proteinuria decreased to a variable extent in all patients with these symptoms. Undesirable effects of corticotropin therapy included psychoses, fluid retention, hypertension, convulsions, porcine obesity, acne, hirsutism, and diabetes mellitus. The relief of anemia, thrombopenia and leukopenia often brought about by corticotropin therapy suggests that in contradistinction to other forms of therapy in white blood cell proliferations, corticotropin stimulates rather than depresses the bone marrow. This is advantageous in the treatment of patients with deficient bone marrow, whether this deficiency may be due to the primary disease or previous therapy. The final evaluation of the place of corticotropin in the treatment of the various proliferative diseases of the leukopoietic tissues remains to be established.

Bulletin New York Academy of Medicine, New York

27:539-594 (Sept.) 1951

Experimental and Human Atherosclerosis: Possible Relationship and Present Status. M. Bruger and E. Oppenheim.—p. 539.

ACTH and Cortisone as Therapeutic Agents in Arthritis and Some Locomotor Disorders. O. Steinbrocker, S. Berkowitz, S. Carp and others.—p. 560.

Studies on Mechanism of Toxic Action of Newcastle Disease Virus. H. S. Ginsberg.—p. 581.

Studies on Relationship Between Theiler Group of Viruses and Intestinal Tract of Mouse. B. Mandel.—p. 583.

Chromatographic Analysis of Ragweed Pollen Extract. E. Perlman. —p. 586.

California Medicine, San Francisco

75:185-260 (Sept.) 1951

Surgical Treatment of Acquired Heart Disease. F. Gerbode.—p. 185.

Western Equine and St. Louis Encephalitis in Man, California, 1945-1950. E. H. Lennette and W. A. Longshore.—p. 189.

Progressive Adhesive Arachnoiditis Following Spinal Anesthesia. W. W. Woods and R. G. Franklin.—p. 196.

Asthma and Cardiac Dyspnea—Differential Diagnosis. F. Perlman. —p. 199.

Extraperitoneal Pneumography: Preliminary Report. H. L. Steinbach, R. P. Lyon, E. R. Miller and D. R. Smith.—p. 202.

Experimental Investigations on Action of Antihistaminic Nasal Solutions: Preliminary Report. L. K. Gundrum.—p. 207.

Penicillin as Etiologic Factor in Ectopic Pregnancy. L. Krohn.—p. 211.

Some Viewpoints on Child Psychiatry. F. N. Anderson.—p. 213.

"Glossopharyngeal Breathing" by Paralyzed Patients: Preliminary Report. C. W. Dail.—p. 217.

Delaware State Medical Journal, Wilmington

23:193-260 (Aug.) 1951. Partial Index

Preventive Psychiatry in Delaware. M. A. Tarumianz.—p. 193.
Diagnosis and Treatment of Anxiety States. J. Hughes.—p. 197.
Neuropsychiatric Emergencies. J. C. Yaskin.—p. 202.
*Pituitary Cretinism. C. W. Dunn.—p. 207.
Study of Schizophrenic Family. F. A. Freyhan.—p. 213.
Surgical Intervention in Combined Physical Sterility and Psychic Impoteace: Case Report. H. S. Howard.—p. 217.
Contraindications for Electric Shock Treatment: Need for Re-evaluation. H. G. De Cherney.—p. 226.
Sodium Amytal Addiction with Acute Toxic Psychosis. J. Fechner. —p. 231.
Syphilis in Negro Patients. C. L. R. Souder.—p. 232.
Note on Problem Child. W. S. Robbins.—p. 239.
Necessity of Individualization in Insulin-Coma Therapy. N. T. Arikian. —p. 243.
Psychological Study of Childhood Schizophrenia: Case Report. W. H. Tracy.—p. 246.

Pituitary Cretinism.—Dunn reports a case of pituitary cretinism in a girl aged 10½ years, and describes her therapeutic response to four and a half years' administration of oral anterior pituitary, thyroxin, and calcium glycerophosphate. In pituitary cretinism the cretinic facies and other constitutional and functional signs of severe hypothyroidism are the result of an anterior pituitary thyrotropic deficiency. The thyroid is free from pathological changes. Its secreting cells are small but functionally dormant because they are not being stimulated by the thyrotropic factor. The pituitary disturbance is presumed to be due to a cystic lesion, since the pituitary is enlarged equally in all diameters and there is no erosion of the enlarged sella turcica. Pituitary cretinism can be distinguished from thyroid cretinism by the roentgenologically enlarged sella turcica in the former, and the combination of pituitary infantilism, myxedema, and a mental development above that of the average thyroid cretin. This differentiation is important because of: (1) the greater degree of physical, sexual, mental, social, and economic development obtainable in pituitary cretinism from adequate anterior pituitary and thyroid therapy as compared to thyroid therapy alone, and (2) the greater tolerance of the thyroid cretin for thyroid extract. Doses well tolerated by the thyroid cretin have produced thyrotoxic reactions in all seven cases of pituitary cretinism seen by the author.

Georgia Medical Association Journal, Atlanta

40:367-404 (Sept.) 1951

Effect of Cortisone (Cortone) and Pituitary Adrenocorticotrophic (ACTH) Hormone on Pulmonary Diseases and Conditions. A. W. Hobby. —p. 367.
Stevens-Johnson Syndrome Occurring in Identical Twins with Apparent Response to Terramycin and Aureomycin. J. H. Pritchett Jr. and A. C. Austin.—p. 374.
Treatment of Gastric Ulcer. D. Shepard.—p. 376.
Debunking the "T and A." (Tonsillectomy and Adenoidectomy). J. T. King.—p. 381.

Journal of Applied Physiology, Washington, D. C.

4:53-160 (Aug.) 1951

Relation of Uropepsinogen Excretion to Gastric Pepsin Secretion in Man. H. D. Janowitz and F. Hollander.—p. 53.
Flicker Fusion Frequency Measurements on Man Subjected to Positive Acceleration on Human Centrifuge. G. Keighley, W. G. Clark and D. R. Drury.—p. 57.
Diastase Not Constituent of Human Succus Entericus. C. J. Heifetz. —p. 63.
Source of Bicarbonate of Saliva. H. F. Sand.—p. 66.
Analysis of Factors Affecting Partial Pressures of Oxygen and Carbon Dioxide in Gas and Blood of Lungs: Theory. R. L. Riley and A. Cournand.—p. 77.
Id.: Methods. R. L. Riley, A. Cournand and K. W. Donald.—p. 102.
Respiratory Heat Exchange with Varying Temperature and Humidity of Inspired Air. J. W. McCutchan and C. L. Taylor.—p. 121.
Cross Education: Ipsilateral and Contralateral Effects of Unimanual Training. F. A. Hellerbrandt.—p. 136.
Hematological Effects of Chronic Low-Level Irradiation. J. Moshman. —p. 145.
*Effect of Prolonged Motionless Standing on Phases of Cardiac Cycle, Stroke Volumes, and Posterior-Anterior Diameters of Heart as Studied by Electrokymograph. E. E. Eddleman Jr., K. Willis and H. E. Heyer.—p. 156.

Effect on Heart of Prolonged Motionless Standing.—Electrokymographic studies were made on four normal male subjects standing motionless for 16 to 30 minutes. Apparent stroke volumes, posterior-anterior cardiac diameters, blood pressure, and phases of the cardiac cycle were determined at approximately three-minute intervals until syncope. There were apparently three stages in the physiological response to motionless standing. First, there was a decrease in stroke volume and cardiac posterior-anterior diameters during the first 4 to 12 minutes, probably the result of pooling of blood in the legs. Secondly, there was a temporary rise in the stroke volume associated with an increase in posterior-anterior cardiac diameters. Third, the posterior-anterior cardiac diameters continued to increase with a decline in stroke volume until syncope ensued. The mean blood pressure was maintained until the abrupt onset of syncope.

Journal of Aviation Medicine, St. Paul

22:261-338 (Aug.) 1951. Partial Index

Circulatory Adjustments to Reduced Barometric Pressure. J. L. Lipin and W. V. Whitehorn.—p. 278.
Changes in Bone Marrow Pressure During Exposure to Simulated Altitude. M. H. Kaiser, H. K. Ivy, L. Pevsner and others.—p. 286.
Recent Advance in Air Force Pressure Breathing Equipment: Automatic Pressure Breathing Oxygen Regulator—Type D-1. W. E. Hull.—p. 295.
Prevention of Injuries Due to Crash. H. A. Schroeder.—p. 306.
Human Factors in Jet Bomber Operation. D. C. Heimburger.—p. 312.
Sonic Radiation Effects on Rats. E. D. Day, D. C. Fletcher, G. M. Naimark and W. A. Mosher.—p. 316.

Journal of Bacteriology, Baltimore

62:137-252 (Aug.) 1951. Partial Index

Factors Important for Growth of Histoplasma Capsulatum in Yeast Cell Phase on Peptone Media: I. Blood and Blood Derivatives. D. L. McVickar.—p. 137.
Manganese as Essential Element for Sporulation in Genus Bacillus. J. Charney, W. P. Fisher and C. P. Hegarty.—p. 145.
Studies on Streptomyces Lavendulae. S. A. Waksman, D. Harris and M. Lechevalier.—p. 149.
Studies on Recently Isolated Cholera Vibrios: Re-evaluation of Culture Methods. O. Felsenfeld, D. W. Soman, T. Waters and S. J. Ishihara. —p. 175.
Utilization of Three Singly-C^{14}-Marked Lactic Acids by Escherichia Coli. D. Fraser and B. Tolbert.—p. 195.
Pyruvic Acid Metabolism: II. Acetoin-Forming Enzyme System in Streptococcus Faecalis. M. I. Dolin and I. C. Gunsalus.—p. 199.
Biosynthesis of Citric Acid. S. F. Carson, E. H. Mosbach and E. F. Phares.—p. 235.
Simple Procedure for Preparation of Egg Medium for Mycobacterium Tuberculosis. M. W. Wheeler.—p. 244.

Journal Clin. Endocrinology, Springfield, Ill.

11:897-1044 (Sept.) 1951

Role of Liver and Kidneys in Metabolism of Intravenous Testosterone by Human Subjects. C. D. West, F. H. Tyler, H. Brown and L. T. Samuels.—p. 897.
Metabolic Effects of Adrenocorticotropic Hormone (ACTH) in Patient with Cushing's Syndrome and Acromegaly. L. P. Eliel and O. H. Pearson.—p. 913.
Comparison of 17-Ketosteroid Excretion in Cushing's Syndrome Associated with Adrenal Tumor and with Adrenal Hyperplasia. A. P. Forbes and F. Albright.—p. 926.
Effects of Luteotropic Doses of Chorionic Gonadotropin in Women. A. Segaloff, W. H. Sternberg and C. J. Gaskill.—p. 936.
Endocrine Studies in Aging. A. L. Heller and R. A. Shipley.—p. 945.
Duration of Antidiuretic Action of Pitressin Solution and of Pitressin Tannate in Aqueous and Oil Suspensions. M. L. Wilson and D. A. McGinty.—p. 963.
*Effects of p-Hydroxypropiophenone on Thyroid Gland of Experimental Animals. W. L. Money, V. Lucas, J. Fager and R. W. Rawson. —p. 973.
Therapeutic Studies in Hyperthyroidism: Sodium 5-Iodo-2-Thiouracil. B. Catz, D. W. Petit and P. Starr.—p. 978.
Metabolic Studies with I^{131}-Labeled Thyroid Compounds: Distribution and Excretion of Radiodiiodotyrosine in Human Beings. A. Albert and F. R. Keating Jr.—p. 996.
Comparison of Single G-M Tube Method and Multitube Method of Assaying I^{131} Uptake by Human Thyroid. M. Perlmutter, S. Weisenfeld and M. Mufson.—p. 1012.
Levels of 17-Hydroxycorticosteroids in Peripheral Blood of Human Subjects. D. H. Nelson, L. T. Samuels, D. G. Willardson and F. H. Tyler.—p. 1021.

Effects of *p*-Hydroxypropiophenone.—The effect of *p*-hydroxypropiophenone on thyroid function was studied in 120 mature male rats and 40 3-day-old chicks. Of the 120 rats, 40 were given a low-iodine diet, and 5 to 100 mg. of *p*-hydroxypropiophenone was injected subcutaneously as a saline suspension in 30 of these animals, once a day for 10 days. Ten untreated animals served as controls. A second group of 40 rats were given regular laboratory food and 0.1% thiouracil in their drinking water. Of

these 40 animals, 30 were given 5 mg. to 100 mg. of *p*-hydroxypropiophenone daily, while 10 with no injections served as controls. The third group of 40 rats were given a low-iodine diet, and 30 of them received *p*-hydroxypropiophenone mixed in this food and/or 0.1% thiouracil in the drinking water. Thiouracil was withdrawn from the animals 48 hours before autopsy. The *p*-hydroxypropiophenone was given for 10 days. Of 40 baby chicks on a low-iodine diet, 30 were given *p*-hydroxypropiophenone and/or thiouracil in the diet. Twenty-four hours before autopsy all animals were given 1 μc of carrier-free radioactive iodine (I^{131}) intraperitoneally. Oral or parenteral administration to rats on a low-iodine diet decreased the collection of I^{131} by the thyroid. The compound failed to inhibit the formation of a goiter in animals treated with thiouracil. Adrenal weights of the rats receiving *p*-hydroxypropiophenone orally or parenterally were increased. Pituitary gland weights of the rats were not significantly changed from control values. Results of these experiments on rats and chicks indicated that whether given orally or parenterally the drug fails to change the response of the thyroid to thiouracil treatment. It is concluded that *p*-hydroxypropiophenone is not a specific inhibitor of pituitary hormones.

Journal of Experimental Medicine, New York

94:87-170 (Aug.) 1951

Kinetic Studies on Immune Hemolysis: II. Reversibility of Red Cell-Antibody Combination and Resultant Transfer of Antibody from Cell to Cell During Hemolysis. W. M. Bowman, M. M. Mayer and H. J. Rapp.—p. 87.
Adaptation of Lansing Strain of Poliomyelitis Virus to Newborn Mice. J. Casals, M. K. Olitsky and R. O. Anslow.—p. 111.
Specific Complement-Fixation Test for Infection with Poliomyelitis Virus. J. Casals, P. K. Olitsky and R. O. Anslow.—p. 123.
Mechanism of Action of 17-Hydroxy-11-Dehydrocorticosterone (Compound E) and of Adrenocorticotropic Hormone in Experimental Hypersensitivity in Rabbits. F. G. Germuth Jr., J. Oyama and B. Ottinger.—p. 139.

J. Pharmacology & Exper. Therap., Baltimore

102:215-298 (Aug.) 1951. **Partial Index**

Acute Tolerance to Thiopental. B. B. Brodie, L. C. Mark, P. A. Lief and others.—p. 215.
Investigation of Molecular Configurations Favorable for Stimulation or Blockade of Acetylcholine-Sensitive Receptors of Visceral Organs. A. M. Lands.—p. 219.
Action of Histamine and Antihistaminic Substances on Endothelial Cells of Small Capillaries in Skin. A. G. Matoltsy and M. Matoltsy.—p. 237.
*Evaluation of Certain Antihistaminics for Use in Auricular Fibrillation. E. L. McCawley, G. A. Weston and N. A. David.—p. 250.
Alkyl Nitrites: XV. Effect of Nitrites and Nitrates on Oxygen Uptake of Arterial Tissue. J. C. Krantz Jr., C. J. Carr and M. Y. Knapp.—p. 258.
Studies on Veratrum Alkaloids: XIV. Antiaccelerator Cardiac Action of Derivatives of Veratramine and Jervine and of Synthetic Steroid Secondary Alkamines Obtained from Pregnenolone and from Sapogenins. O. Krayer, F. C. Uhle and P. Ourisson.—p. 261.

Antihistaminics for Auricular Fibrillation.—Clinical experience with quinidine in the therapy of auricular fibrillation indicated a need for a substitute that may be used intravenously, will not induce marked hypotension, and, in itself, will not cause ventricular arrhythmias. McCawley and associates had demonstrated in previous experiments that the benzhydryl ether antihistaminics prevent ventricular arrhythmias in animals. On the basis of these experiments they used these compounds in therapeutic trials in clinical auricular fibrillation. They used the isolated auricle technique of Dawes to study the action of a series of antihistamine compounds on the myocardial refractory period. The antihistaminics studied prolonged the refractory period at concentrations lower than that required by quinidine. Fibrillation or flutter was initiated in the isolated auricle preparation by a localized traumatic infarct or by aconitine. It was found that quinidine and diphenhydramine can produce a sudden conversion to a slow rhythm in these preparations. The authors feel that a variety of experimental techniques must be applied to this potentially useful antifibrillatory drug before it can be given a clinical trial. The present knowledge concerning the genesis of clinical auricular fibrillation is insufficient to permit selection in one alteration of critical function of the auricle for study with antifibrillatory agents. Diphenhydramine seems worthy of clinical trial in patients with auricular fibrillation.

Journal of Urology, Baltimore

66:153-314 (Aug.) 1951. **Partial Index**

Pheochromocytoma: Report of Malignant Case (Pheochromoblastoma). F. J. Pyle.—p. 153.
Polycystic Renal Disease with Particular Reference to Author's Surgical Procedure. A. E. Goldstein.—p. 163.
*Translumbar Nephrocolopexy. F. Barquín.—p. 173.
Renal Tumors: Pathology and Prognosis in 295 Cases. N. C. Foot, G. A. Humphreys and W. F. Whitmore.—p. 190.
Surgical Management of Bladder Stone. F. P. Twinem and B. B. Langdon.—p. 201.
Vesical Evidence of Posterolateral Spinal Cord Disease. R. Lich Jr. and J. E. Maurer.—p. 213.
*Present Urologic Status of the War-Time Paraplegic. J. A. Hutch and R. C. Bunts.—p. 218.
Malakoplakia of Urinary Bladder and Sarcoidosis. A. J. French and J. T. Mason.—p. 229.
Operation for Cure of Total Urinary Incontinence in the Male: Report of One Case. G. H. Strong and K. E. Van Buskirk.—p. 234.
Stricture of the Female Urethra. D. Brannan.—p. 242.
Tuberculosis in Obstructive Prostate Gland. W. J. Baker and E. C. Graf.—p. 254.
Hemostasis in Transurethral Resections: Use of Adrenalin-Hyaluronidase Mixture. W. Baurys.—p. 265.
Results of Surgery in Tumor of Testis, Especially Radical Removal. G. F. Cahill.—p. 280.
Pediatric Urological Admissions. J. K. Lattimer and M. Hubbard.—p. 289.
Trichomonas Infestation in the Male: Preliminary Report. J. E. Glen Jr. and R. S. Bailey.—p. 294.
Manson's Schistosomiasis with Unilateral Involvement of Kidney. L. A. Sanjurjo and E. Koppisch.—p. 298.
Clinical Intravenous Nephrogram: Preliminary Report. B. Wall and D. K. Rose.—p. 305.

Translumbar Nephrocolopexy.—Translumbar nephrocolopexy was performed on 67 women between the ages of 20 and 45 and weighing between 80 and 110 lb. (36.3 to 49.9 kg.) with nephroptosis. Preoperative study of these patients revealed that they were nervous persons and that their usual complaints, besides the cardinal symptom of nephralgia, were loss of weight, gastric distress, constipation, and loss of appetite. It was observed that nephroptosis is not uncommonly associated with enteroptosis or a downward displacement of the colon, particularly in women, in whom these conditions are more prevalent. The usual lumbar incision was made, and the Lowsley ribbon gut technique was employed for the nephropexy. After this procedure, the peritoneum was opened, the appendix removed, and the anterior band of the ascending colon at the level of the hepatic angle sutured to the superior angle of the peritoneal wound and to the ribbon gut at the inferior pole of the kidney. Postoperative follow-up showed that all the patients were improved clinically, as shown by the absence of symptoms and by gain in weight ranging from 11 to 45 lb. (5.0 to 20.4 kg.).

Urologic Status of Wartime Paraplegics.—Of 170 paraplegic patients with spinal cord injuries resulting in neurogenic bladder, 85 were injured during or before World War II. Considering the entire group, an average of 4.04 years had elapsed since the injury was sustained. Of the 170 patients, 142 had a voiding trial and 28 for one or another reason did not. Of the 142 patients, 73 had only mild disturbances of bladder function, with emptying no oftener than every two hours, and 69 had severe disturbances. Of the 142, 19 had cervical lesions, and 12 of these (63%) had relatively good bladder function, 60 had dorsal lesions, and only 22 of these (37%) had relatively good function, while of the 63 with lumbrosacral lesions, 39 (62%) had relatively good function. Thus, the condition of patients with lower cord lesions was as good as or better than those with higher cord lesions. Of 82 patients whose bladders were drained by urethral catheters during the period of spinal shock, the bladders eventually showed relatively good function in 49 (60%), while of 51 similar patients whose bladders were drained by suprapubic catheters, in only 18 (35%) was there clinically good function. It was concluded that urethral drainage offers a better opportunity for bladder recovery than does suprapubic drainage. Analysis of factors responsible for the failure of the paralyzed bladder to regain its function in 69 of the 142 patients revealed that peripheral spasm and contracted bladders were the commonest causes for this failure. Other factors included lower urinary tract complications. A study of the changes occurring in the upper urinary tracts of the paraplegic patients with the passage of time showed that changes, as judged by hydronephrosis, hydro-ureter, and calycectasis, rose rapidly during

the first 24 months and then tended to level off. Functional damage, as judged by excretory urography, was not pronounced during the first three years but then increased rapidly. Causative factors, such as stones and infections, were common during the first two years and then became less and less important. The curve plotting their incidence followed closely the curves denoting anatomic damage to the kidneys and ureter. The incidence of vesical ureteral reflux was not great until the end of the third year, and then it rose sharply, paralleling closely the curve denoting loss of renal function. It was also noted that more damage to the upper urinary tract occurs in patients whose bladders function poorly.

Medical Annals of District of Columbia, Washington

20:465-522 (Sept.) 1951

Medical Aspects of Civil Defense in Biologic Warfare. V. H. Haas. —p. 465.
Safety Factors in Clinical Use of Radioisotopes. C. C. Powell.—p. 471.
Changing Emotions of the Climacteric. F. S. Rogers.—p. 475.
Treatment of Menopause. R. Bieren.—p. 478.
Menorrhagia—Psychosomatic Considerations: Report of Case. S. A. Steiner.—p. 483.
Ovarian Pregnancy: Report of Case. J. W. Pearson Jr. and C. E. Horton.—p. 485.

Minnesota Medicine, St. Paul

34:725-828 (Aug.) 1951

Nasal Allergy. W. T. Wenner.—p. 745.
Skin Allergies. E. M. Rusten.—p. 748.
Allergy in Infants and Children. H. F. Flanagan.—p. 752.
Allergic Asthma. L. E. Prickman.—p. 755.
Gastrointestinal Manifestations of Allergic Disease. C. N. Hensel. —p. 757.
Psychogenic Factors in Allergic Disease. M. G. Fredricks.—p. 762.
New Grooved Enucleation Implant. C. Hymes.—p. 771.
Management of Intermittent Exotropia. T. G. Martens.—p. 775.

34:829-932 (Sept.) 1951

SYMPOSIUM ON CORTISONE AND ACTH

Introduction. H. F. Polley.—p. 849.
Use of Cortisone and ACTH in Management of Severe Bronchial Asthma and Nasal Allergy. G. A. Koelsche, C. K. Maytum, L. E. Prickman and others.—p. 850.
Effects of Cortisone and ACTH on Periarteritis Nodosa. R. M. Shick, A. H. Baggenstoss, B. F. Fuller and H. F. Polley.—p. 852.
Acute Rheumatic Fever Treated with Cortisone and ACTH: Report on 14 Cases. H. L. Smith and A. R. Barnes.—p. 854.
Summary. H. F. Polley.—p. 855.
Diagnostic Pitfalls in Cardiology. H. B. Sprague.—p. 856.
Surgical Treatment of Varicose Veins. L. D. Hilger.—p. 860.
Surgical Treatment of Diseases of Heart and Great Vessels. J. W. Kirklin.—p. 865.
Vertigo. H. L. Williams.—p. 871.
Pharyngeal Infection Complicated by Erosion of Internal Jugular Vein. F. G. Folken.—p. 877.

New England Journal of Medicine, Boston

245:275-316 (Aug. 23) 1951

*Herpangina: Clinical Studies of Specific Infectious Disease. R. H. Parrott, S. Ross, F. G. Burke and E. C. Rice.—p. 275.
Cancer of Uterine Cervix: Study of 432 Cases Seen at the Rhode Island Hospital, 1933-1943. S. I. Raphael and G. W. Waterman.—p. 281.
Treatment of Chronic Ulcerative Colitis with Pituitary Adrenocorticotrophic Hormone (ACTH): Clinical Study of 28 Cases. J. M. Elliott, E. D. Kiefer and L. M. Hurxthal.—p. 288.
*Administration of Cortisone by Aerosol Method in Treatment of Bronchial Asthma. M. L. Gelfand.—p. 293.
Treatment of Fractures and Dislocations; with Note on Anesthesia. E. F. Cave, C. R. Rowe and D. P. Todd.—p. 295.

Herpangina, a Specific Infectious Disease.—A disease entity characterized by fever with vesicular or ulcerated throat lesions and chiefly affecting children has been prevalent in the District of Columbia and its environs for many summers. Physicians agreed that the disease was highly contagious and usually ran a benign, self-limited course. It is now apparent that this disease is herpangina, a specific entity described by Zahorsky in 1920. Studies on a possible virus etiology were begun by Huebner, who succeeded in isolating viruses of the Coxsackie group A from both throat washings and stools. The present study was carried out in the outpatient department of the Children's Hospital in Washington, D. C. All children with fever and pharyngitis were examined, and those with the characteristic vesicular or ulcerated lesions in the throat were further studied. Laboratory studies included throat and stool cultures for predominating bacterial organisms, throat and anal swab and stool specimens for virus isolation, venous blood for virus-antibody determinations, white blood cell and differential counts. Each patient was seen at two-day intervals thereafter, until the illness had subsided. A second blood specimen was drawn for convalescent antibody assay 10 to 20 days after the onset of illness. The ages of the 22 patients ranged from 6 months to 8 years. There was a relatively high incidence in siblings (8 of 22). The authors present a case report illustrating the course of herpangina. Viruses were recovered in 19 of the 22 cases and showed four immunologically distinct strains among group A Coxsackie viruses. Neutralizing antibodies against homologous strains of virus were present in all convalescent serums, and a rise in titer was demonstrated during illness in 70% of cases.

Cortisone in Aerosol Form.—Gelfand presents observations on five patients with bronchial asthma of the mixed variety (intrinsic and extrinsic bronchial asthma) treated with cortisone in aerosol form. The method of dilution was similar to that suggested by Reeder and Mackey—1 cc. of cortisone mixed with 4 cc. of isotonic sodium chloride solution. The dosage was 1 cc. of this mixture, inhaled every hour for a period of 10 hours daily, a total of 50 mg. per day. Treatment lasted two weeks, with beneficial effect in four out of five cases. The patient who responded unfavorably was a 65-year-old woman who had severe emphysema and pulmonary fibrosis. Relapses occurred in three of the four successfully treated cases after the fourth to fifth day following the cessation of therapy. Administration of the drug in a similar manner for another 10 days to two weeks, however, again produced amelioration of symptoms. The dosage employed was considerably less than that recommended by other authorities; however, since relapses have been noted by many writers, even after the administration of larger amounts over longer periods of time, low dosage cannot be the cause of the relapses in these cases. The exact optimal dose of cortisone is not known; it depends on the severity of the disease rather than on the age and weight of the patient. The optimal dose is the one that is capable of controlling the clinical condition without producing undesirable side-effects. Since the bronchospasm in the above cases was relieved by 50 mg. of nebulized cortisone without metabolic alterations, it may be assumed that 50 mg. given in aerosol form constituted the optimal dosage in four of the five patients treated.

New Jersey Medical Society Journal, Trenton

48:399-444 (Sept.) 1951

Symptoms Following Biliary Surgery: Appraisal of Their Etiology and Correction. E. J. Halligan, L. L. Perkel, J. K. Catlaw and L. Troast. —p. 401.
Management of Allergic Conditions of Upper Respiratory Tract. N. Schaffer and E. E. Seidmon.—p. 409.
Wandering Spleen with Torsion of Pedicle. M. N. Neibrief and E. V. Parsonnet.—p. 414.
Unusual Course and Thickening of Round Ligament of Liver Causing Symptoms Simulating Pyloric Stenosis. L. E. De Yoe and J. A. Ianacone.—p. 417.
Family Doctor's Role in Children's Conduct Disorders. R. D. Roecker. —p. 418.
Radioisotopes in Medicine. H. D. Diamond.—p. 420.
Blood Transfusion in Infants. T. K. Rathmell and G. Mora.—p. 424.
Chronic Nonspecific Prostatitis. H. M. Ill.—p. 426.

New Orleans Medical and Surgical Journal

104:43-88 (Aug.) 1951

Some Present Day Concepts of Congestive Heart Failure and Its Treatment. G. R. Herrmann, J. A. Ortiz, G. IV H. C. Hermann and H. P. Reveley.—p. 43.
Cancer of Rectum: Its Recognition and Treatment. F. W. Rankin.—p. 51.
Nontraumatic Rupture of Common Bile Duct: Two Case Reports. L. J. Gariepy.—p. 55.
Ureterosigmoid Anastomosis and Cystectomy. J. J. Cordonnier.—p. 62.
Value of Electroencephalographic Examination. H. T. Posey.—p. 70.

New York State Journal of Medicine, New York

51:1759-1854 (Aug. 1) 1951

Practical Aspects of Resuscitation of the Newborn. B. E. Cappe and I. M. Pallin.—p. 1797.
Cardiac Resuscitation. E. C. Hanks and E. M. Papper.—p. 1801.
Intravenous Pentobarbital Sodium-Ethylene Anesthesia. V. Coviello, S. Goldenberg and R. W. Robertazzi.—p. 1815.
Experiences with Intravenous Gelatin. R. G. Hicks and V. J. Collins. —p. 1819.
Clinical Experience in Anesthesia for Neurosurgery. N. Horwitz, E. Emma and S. G. Hershey.—p. 1822.
Clinical Use of Procaine Amide (Pronestyl) During Anesthesia. S. I. Joseph, L. R. Orkin and E. A. Rovenstine.—p. 1827.
21-Acetoxypregnenolone in Treatment of Rheumatoid Arthritis. J. S. Davis Jr. and H. Bartfeld.—p. 1832.
Nisentil in 1,000 Obstetric Cases. H. G. LaForge.—p. 1835.
Clinical and Physiologic Effects of Adrenocorticotropic Hormone and Cortisone Acetate in Patients with Neoplastic Disease. L. P. Eliel and O. H. Pearson.—p. 1839.
Arteriovenous Anastomosis for Peripheral Vascular Disease. H. L. Skinner and E. F. Parsons.—p. 1843.

51:1855-1958 (Aug. 15) 1951

Mechanisms Involved in Production of Pulmonary Hypertension. D. M. Spain.—p. 1903.
Management of Civilian Injuries of Chest. J. M. Chamberlain and C. F. Daniels.—p. 1908.
Necessity for Exploration in Silent Lung Cancer. R. H. Overholt and F. M. Woods.—p. 1915.
Pulmonary Calcification and Histoplasmin Sensitivity in New York State. G. A. Cronk.—p. 1919.
Problem of Peptic Esophagitis. W. H. Potter, S. M. Schaer and J. D. Stewart.—p. 1924.
Art of Medicine in Management of Multiple Sclerosis. A. Gallinek. —p. 1930.
Aureomycin Therapy in Dermatoses of Viral Etiology: Preliminary Observations. J. Dougherty.—p. 1932.
*Pitfalls in Evaluating Drug Therapy of Parkinsonism: Comparative Effects of Rabellon and Artane. H. Vollmer.—p. 1933.
Elusive Mental Cases: Parents and Children. B. Liber.—p. 1939.

Evaluating Drug Therapy of Parkinsonism.—The personality pattern and suggestibility of the patient with Parkinsonism, as well as unintentional suggestive influences of the investigator evaluating new drugs for the treatment of this disease, frequently make the latter's task difficult. A review of the literature demonstrates that the first favorable reports usually cannot be confirmed by subsequent investigators. The literature on caramiphen hydrochloride ("panparnit") shows a gradual decline in the percentage figures for favorable results from 100 to 0. The author's experience with this drug is limited to five patients with postencephalitic Parkinsonism previously stabilized over a period of years with optimal doses of a compound of belladonna alkaloids (rabellon®) and requesting a trial with caramiphen hydrochloride. None of these patients was improved. All showed increased tremor and returned to their previous medication with the belladonna alkaloids. In 10 patients, 7 with postencephalitic Parkinsonism, 2 with idiopathic and 1 with arteriosclerotic Parkinsonism, the belladonna alkaloids were slowly withdrawn, while 3-(1-piperidyl)-1-phenyl-1-cyclohexyl-1-propanol hydrochloride (artane®) was substituted in increasing amounts, until the optimal dose was reached. None of the patients was objectively improved with artane® as compared to the belladonna alkaloids. Artane® seemed to be less effective than the latter drug in the control of tremor, and its disagreeable central nervous system side-effects, leading to confusion, disorientation, and delirium, are not negligible. To avoid erroneous conclusions in the clinical evaluation of a new drug several factors should be taken into consideration: 1. Patients previously treated with adequate doses of an effective drug are frequently but only temporarily "improved" by changing to a new even less effective drug. 2. A skeptical attitude in presenting a new treatment to the patient may psychologically interfere with an objective improvement attainable by an effective drug. 3. Psychogenic, subjective improvement may, perhaps through hypothalamic mediation, favorably influence the objective symptoms too, but such improvement may be maintained for only a limited period. 4. Subjective improvement may be regarded as a real therapeutic success in Parkinsonism but cannot justifiably be ascribed to the pharmacologic action of a drug, unless it is accompanied by objective and sustained improvement of the neurological symptoms.

Northwest Medicine, Seattle

50:561-648 (Aug.) 1951

Diagnostic and Therapeutic Nerve Block in General Practice. J. S. Lundy.—p. 577.
Mumps Myocarditis. M. Z. Irvin, T. H. Bacharach and R. L. Pullen. —p. 583.
Peristaltic Enema. H. K. Grimm.—p. 586.

50:649-740 (Sept.) 1951

Influence of Rutin upon Diabetic Retinitis. L. J. Palmer, N. F. Flaherty, J. H. Crampton and R. H. Johnson.—p. 669.
Venous Obstruction in Upper Extremity. M. H. Querna.—p. 671.
Status of Surgical Treatment of Hypertension. G. E. Sanford.—p. 673.

Proc. Soc. Exper. Biol. & Med., Utica, N. Y.

77:589-888 (Aug.) 1951. **Partial Index**

Primary Amide Groups of Human Hemoglobin. S. R. Dickman and I. H. Moncrief.—p. 631.
Failure of Testosterone to Alter Responsiveness to Insulin in Diabetes Mellitus. H. J. Zimmerman, A. E. Parrish and L. K. Alpert.—p. 646.
Changes in Acetylcholine Content of Brain During Exposure to Cold. L. J. Milch, H. F. Midkiff, P. Matthews and H. I. Chinn.—p. 659.
Inhibition of Hemagglutination of Columbia-SK Virus by Human Polio-Convalescent Sera. C. W. Jungeblut and B. Horvath.—p. 672.
Serum Iron and Hemoglobin Values of 275 Health Women. M. Chaloupka, R. M. Leverton and E. Diedrichsen.—p. 677.
Effect of Lactate on Renal Tubular Transfer of *p*-Aminohippurate in Man. R. K. McDonald, N. W. Shock and M. J. Yiengst.—p. 686.
*Evaluation of Segmental Gastric Resection for Peptic Ulcer. F. S. Cross, D. J. Ferguson and O. H. Wangensteen.—p. 689.
Effect of ACTH and Cortisone on Phagocytosis. S. B. Crepea, G. E. Magnin and C. V. Seastone.—p. 704.
Effects of Cortisone and 11-Desoxycortisone on Pain Thresholds in Man. R. E. Lee and C. C. Pfeiffer.—p. 752.
Aqueous Humor as Tissue Culture Nutrient. W. S. Albrink and A. C. Wallace.—p. 754.
Experimental Pyelonephritis and Hypertension in Rats. J. K. Spitznagel and H. A. Schroeder.—p. 762.
Technic for Measurement of Radioactive Iodine (I-131) Uptake by Human Thyroid Gland. J. U. Hidalgo, S. B. Nadler, T. Bloch and R. T. Nieset.—p. 764.
Serologically Reactive Material in Spinal Fluid, Blood, and Urine from Human Case of Cryptococcosis (Torulosis). J. M. Neill, J. Y. Sugg and D. W. McCauley.—p. 775.
Hypervitaminosis A: Adjunct to Present Methods of Vitamin A Identification. S. B. Wolbach and C. L. Maddock.—p. 825.
Effect of Unrelated Vaccines on Localization of Paralysis in Mouse Encephalomyelitis. D. J. Dean, S. M. Cohen and G. Dalldorf.—p. 834.
Urinary Excretion of Vitamin B_{12}, Folic Acid, and Citrovorum Factor in Human Subjects on Various Diets. U. D. Register and H. P. Sarett.—p. 837.
Heterocyclic-Substituted Sulfone with Activity Against Mycobacterium Tuberculosis. R. H. Vogel and M. J. Kopac.—p. 859.
Role of Bile and Pancreatic Juice in Production of Esophageal Erosions and Anemia. F. S. Cross and O. H. Wangensteen.—p. 862.
Effect of Inhaled Cigarette Smoke on Production of Peptic Ulcer in Dog. R. W. Toon, F. S. Cross and O. H. Wangensteen.—p. 866.

Segmental Gastric Resection for Peptic Ulcer.—For many years surgeons have done a three-quarter gastric resection for peptic ulcer in which the entire gastrin-containing area of the stomach along with a large segment of the acid-secreting area is excised. In order to overcome some of the limitations of these methods, it was proposed to reverse the usual procedure of gastric resection by leaving an antrum intact, excising a larger fragment of the acid-secreting area, and leaving not more than 10% nor less than 5% of the total gastric area in the fundic segment. Diminution of acid secretion is then assured, and optimal conditions are afforded for neutralization and digestion by bile and pancreatic juice. Moreover, it was hoped that segmental gastric resection might obviate some of the problems of the dumping syndrome. Experiments on dogs revealed that an extensive segmental gastric resection, in which 74% of the acid-secreting portion of the stomach by weight is excised, leaving 10% of the entire stomach as the upper fundic pouch anastomosed to the antrum, will protect against the ulcer caused by histamine in beeswax in the dog. A segmental resection in which 25% of the stomach by weight is left as the fundic pouch will not protect against the histamine in beeswax ulcer, whether or not a complemental vagotomy is done.

Texas Reports on Biology and Medicine, Galveston

9:391-678 (No. 3) 1951. **Partial Index**

Premenstrual Tension—Rational Treatment. W. Bickers and M. Woods. —p. 406.
Studies on Antibiotics and Normal Intestinal Flora. S. M. Finegold. —p. 432.
Precautions in Use of Phosphate Buffers When Studying Living Tissues in Vitro. I. Galinsky.—p. 445.
*Critical Evaluation of Anti-Reticular Cytotoxic Serum (ACS). T. S. Gardner and D. M. Speaker.—p. 448.
Fat in Diet in Relation to Nutrition of Dog. A. E. Hansen and H. P. Wiese.—p. 491.
Effect of Thymic Extract on Transplanted Sarcoma in Rats. J. B. Loefer and N. G. Gilles.—p. 571.
*Effect of Adrenal Cortical Steroids on Circulating Antibodies in X-Radiated Animals. R. B. Mitchell, J. D. Fulton, J. M. Talbot and A. W. Kimball.—p. 576.
*Serum Antidiuretic Activity in Essential Hypertension. L. M. De Paiva, O. B. Henriques and S. B. Henriques.—p. 594.
Influence of General Hypoxia on Local Cold Injury. J. Pichotka, R. B. Lewis and U. C. Luft.—p. 601.
Sequence of Increasing Local Cold Injury. J. Pichotka, R. B. Lewis and E. Freytag.—p. 613.
Critical Analysis of Neomycin as Intestinal Antiseptic. E. J. Poth, R. G. Martin, S. M. Fromm and others.—p. 631.
Modification of Acute Radiation Syndrome: I. Alteration by Neomycin-Sulfathalidine Therapy. E. J. Poth, F. J. Wolma, R. G. Martin and others.—p. 645.
Accuracy of Death Certificates for Establishing Frequency of Cancer as Shown by Autopsy. R. H. Rigdon and H. Kirchoff.—p. 652.
Physical Therapy in Fractures. W. A. Selle.—p. 660.

Antireticular Cytotoxic Serum.—Gardner and Speaker review the extensive literature on the antireticular cytotoxic serum (ACS) of Bogomolets and find that it has only been partially investigated in the United States. The effects of the serum, both cytotoxic for large doses and stimulating for small doses, have been verified by tissue culture techniques. The stimulating effects in wound and fracture healing have been verified. The relief of pain in human cancer and the suppression of the Brown-Pearce carcinoma in the rabbit have been demonstrated. The suppression of rickettsia in animals has been verified. Improvements in the preparation of the serum have been accomplished, and the optimum stimulating dosage level has been established at 0.1 to 0.15 BU (Bogomolets unit) per kilogram of weight, given in a single dose and repeated about every three weeks in man and every two to three weeks in mice, rats, dogs, guinea pigs, and rabbits. Antireticular cytotoxic serum has been conclusively demonstrated to have little, if any, value in the treatment of arthritis. The possible use of antireticular cytotoxic serum as an anti-aging agent has not been investigated in America. Bogomolets' hypothesis about the role of the reticuloendothelial system has been neither proved nor disproved. However, the possible practical clinical value of antireticular cytotoxic serum does not depend on the strength of this hypothesis. It may be established or refuted independently. Further investigation is recommended to enlarge the possible field of use of antireticular cytotoxic serum and to facilitate the practical development and production of the serum, should this be warranted on the basis of successful clinical trials.

Adrenal Cortical Steroids and Antibodies in Irradiated Animals.—The detrimental effects of roentgen irradiation on antibody production are well known. This paper deals with the effects of adrenal cortical extracts as well as stimulating doses of specific antigen on circulating antibody titers in irradiated animals previously immunized against Salmonella typhosa. In the first experiment, rabbits which received stimulating doses of antigen during the 21-day observation period responded with slight increases in antibody titers. Those receiving no stimulating doses showed no regular antibody changes. Animals receiving adrenal cortical extract at selected intervals following immunization showed no significant changes as compared to controls, whereas, in those given 500 r whole body roentgen irradiation, without follow-up stimulating antigen, circulating antibody titers decreased. The administration of adrenal cortical extract to irradiated animals resulted in a significant maintenance of antibody titers for most of the treatment period. Similarly, animals given a stimulating dose of antigen immediately before irradiation appeared better able to maintain their antibody titers than irradiated animals without the stimulating doses of antigen. In the second experiment two treatment factors were used in rabbits previously immunized against Salmonella typhosa: roentgen irradiation and adrenal cortical extract. Repeated postradiation doses of adrenal cortical extract maintained antibody titers significantly higher than in those irradiated animals that did not have the extract. These data indicate that it is possible to alter the usual course of antibody response following whole body ionizing radiation injury and that, in the irradiated animal, circulating antibodies may be increased by giving adrenal cortical extract after irradiation.

Antidiuretic Activity of Serum in Hypertension.—The experimental production of hypertension by administration of posterior pituitary preparations indicates that this gland might play a part in human hypertension. Since the neurohypophysis is under the influence of hypothalamic centers, the authors thought that differences in antidiuretic activity of serum could be detected between the neurogenic and established phases of essential hypertension. Serums of 16 women with "neurogenic" hypertension and 12 patients with established essential hypertension were studied. The serums of 14 subjects with normal blood pressure served as controls. The tables recording the results of the tests on the three groups of persons reveal that, while normal serum caused a water retention ranging from 1.7 to 4.5 ml. per 100 gm. of body weight (average 2.4) with only one case above 2.7, neurogenic hypertensive serum caused a retention from 2.0 to 4.6 (average 3.2) with only three values below 2.7. Established essential hypertension produced a retention of 2.6 to 4.3 (average 3.5), with only one value below 2.7. The authors conclude that even normal serum has antidiuretic activity when compared with isotonic solution of sodium chloride, but the water retention caused by the serums of patients with essential hypertension was significantly higher than that produced by normal serums, independently of the neurogenic character of the disease.

Virginia Medical Monthly, Richmond

78:455-524 (Sept.) 1951

*Visceral Lesions of Scleroderma. J. M. Hutcheson.—p. 459.
Diagnostic Problems of Chest. D. B. Cole and L. J. Buis.—p. 465.
Cystadenomas of Pancreas. M. K. King and C. R. Sullivan.—p. 468.

Visceral Lesions of Scleroderma.—In recent years numerous studies have appeared describing involvement of organs other than the skin in patients with scleroderma and emphasizing the fact that scleroderma is a generalized systemic disease. The cause of scleroderma is unknown, but the frequent association of scleroderma with Raynaud's phenomenon has suggested that vasospasm may be a primary event. However, this factor is not demonstrable in a large proportion of cases of scleroderma, and in cases in which manifestations of Raynaud's disease are present, they often follow rather than precede hardening of the skin. It seems likely that scleroderma results from some cause that affects connective tissue throughout the body. Some observers have separated a group of patients with scleroderma of a type which they designate acrosclerosis. In these patients, Raynaud's phenomenon is prominent, and skin changes are confined largely to the face, chest, and extremities. Scars of unusual type involving the myocardium have been described in scleroderma. These differ from those caused by vascular disease in that they are not found in the arteries. The lesions are characterized as focal overgrowth of fibrous tissue, with secondary destruction of other myocardial structures. In addition, there is pericardial and subendocardial fibrosis. Cystic sclerosis and compact pulmonary sclerosis are the two types of pulmonary lesions that are found in patients with scleroderma. In the digestive tract, atrophy of the muscular layers and replacement by fibrous tissue are the changes characteristic of scleroderma. The esophagus appears to be most frequently affected, but similar changes have been observed in the walls of the alimentary canal throughout its course. Although scleroderma is relatively uncommon, involvement of structures other than the skin is frequent. Seven of nine patients had symptoms pointing to cardiac, pulmonary, or digestive involvement, and two showed evidence that all three systems were affected. Visceral changes may constitute the most serious aspect of the disease.

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195

FOREIGN

Acta Chirurgica Scandinavica, Stockholm

101:419-508 (July 27) 1951. Partial Index

Occurrence of Pleural Effusion Following Biliary Surgery: Clinicoroentgenologic Study. H. Ekman and P. Ödman.—p. 419.
*Recurrence Rates of Lateral Inguinal Hernia in Adults. S. Borgström.—p. 429.
Treatment of Headache After Spinal Anesthesia with Intraspinal Injection of Physiological Saline Solution. T. Ekström.—p. 450.
Lower Cervical Nerve Roots and Their Investments. R. Frykholm.—p. 457.
Pneumonectomy and Lobectomy for Pulmonary Carcinoma with Particular Reference to Complications. F. Therkelsen.—p. 472.
*Complications and Technical Problems of Medullary Nailing. I. Palmer.—p. 484.

Recurrence in Inguinal Hernia.—Borgström reviews observations on men over 25 who were operated on for unilateral, reducible, acquired inguinal hernia at the Surgical Clinic in Lund over the 13 year period from 1936 to 1948 inclusive. Questionnaires were sent to 980 patients who had had no immediate postoperative complications. Fifty-six had died, and an additional 180 failed to answer the questionnaire, so that 744 cases could be evaluated. Recurrences were reported by 88 of the patients, and over half of these occurred within the first year. The patient's age and weight at the time of operation played no part in the recurrence. Patients doing manual work on the whole had a lower recurrence rate; however, their recurrence rate rose with the size of the hernia, which was not the case in the nonmanual workers, whose over-all recurrence rate was higher. When the plastic repair of muscle was done ventrally to the cord and the latter was taken out medially, the recurrence rate seemed lower than when the repair was done dorsally to the cord and the latter was led out laterally. Furthermore, the skill of the surgeon seemed to influence the recurrence rate, in that patients who had a less experienced surgeon had a higher rate. In evaluating the influence of postoperative recumbency on recurrence, only those in whom the recurrence followed the operation within a year were considered. Recurrence was highest in those whose postoperative recumbency was less than three days. Since the period of hospitalization in these patients was only one day shorter (5.6 compared to 6.6) than in those who were recumbent three or more days, the shortening of postoperative recumbency after hernia operations does not imply a great saving in hospital beds. Nor did shortened periods of recumbency and hospitalization result in a corresponding reduction in the period of convalescence. The recurrence rate increased with the length of the convalescence period, the lowest recurrence rate being observed in those whose period of convalescence was at the most four weeks.

Medullary Nailing.—The 182 cases in which medullary nailing was done at a Stockholm hospital between 1944 and 1950 included cases of fracture of the femur, tibia, humerus, radius, ulna, metacarpus, and clavicle. The one death cannot be attributed to the method. Two cases of pulmonary fat embolism and one case of thrombosis occurred, all in femoral fractures. On the basis of a review of the technical problems and of the complications encountered in these cases, Palmer stresses the following points: 1. The method requires great technical experience and should not be attempted by those who only occasionally deal with fractures. 2. Medullary nailing should be used only in cases in which it promises good results; comminuted fractures or those close to a joint are not suited for this treatment. 3. Open reduction is preferable to tedious methods of closed reduction. 4. The nail should never be driven in with force. It should be removed and replaced by a new one if difficulty is encountered in inserting it. 5. In femoral fractures the nail should be driven in from the tip of the trochanter after careful determination of the direction. 6. Diastasis should be avoided. 7. A nail that bends should be replaced with a new one, at least in femoral fractures. The fracture should be explored and bone chips inserted if union is delayed. Improvised or unsuitable nails or nails not made of absolutely reliable material should never be used. The nail should be equipped with an extraction hole for removal.

Acta Paediatrica, Stockholm

40:259-370 (July) 1951. Partial Index

Precocious Puberty: Clinical Picture and Remote Prognosis. H. O. Mossberg.—p. 261.
Nutritional Deficiencies, Diseases and Poor Social Conditions During Pregnancy as Cause of Neonatal Mortality and Illness During First Year of Life. C. Gyllenswärd.—p. 285.
*Fibrocystic Disease of Pancreas, Disorder of Autonomic Nervous System. H. Bergstrand.—p. 349.

Fibrocystic Disease of Pancreas.—The occurrence of cystic fibrosis of the pancreas is reported in two female infants. The first patient died at the age of 7 weeks and the second at the age of 20 months. In the first, necropsy revealed agenesis of the ganglion cells in the distal ileum and in the entire colon and rectum. No Paneth cells were present in the small intestine. The mucosal glands were not visibly distended but contained round concrements of inspissated secretion, the central parts of which stained like calcium salts. The intestinal contents included many concrements of this kind. The pancreas showed, as in other early cases, only minor lesions; the large ducts were not dilated, but the lumen of the small ducts and the acini contained acidophilic, inspissated, partly lamellated secretion and were dilated. In the second case, microscopic examination did not reveal any abnormalities of the sympathetic nervous system. As in some previously described cases, the mucous glands of the respiratory tract were distended and contained inspissated secretion, but goblet cells were almost absent. The microscopic appearance of the lungs did not resemble that in asthma, a disease in which the parasympathetic nervous system has been considered as overstimulated. The parenchyma of the pancreas was largely replaced by connective tissue, and only a few dilated ducts and acini were present. The cells of the epithelial lining were flattened, and the lumen contained varying amounts of laminated material that stained like mucus and occasionally like fibrin. These two cases strongly support Farber's concept that the basic disorder in cystic fibrosis of the pancreas is an imbalance of the autonomic nervous system. In contrast to Farber, the author considers the disorder as a dysfunction or hypofunction rather than a hyperfunction of the parasympathetic nervous system.

Ann. Chirurgiae et Gynaecologiae Fenniae, Helsinki

40:79-134 (No. 2) 1951. Partial Index

Chronic Gastritis. K. Setälä.—p. 79.
Para-Ovarian Tumors. P. Vara and T. Kangas.—p. 97.
*Seasonal Fluctuations in Reaction Sensitivity of Xenopus Laevis to Chorionic Gonadotrophic Hormone. S. Toivonen, O. Harjola and T. Tikkanen.—p. 103.
Spontaneous Obstruction of Gastroenterostomy and Complete Detachment of Intestinal Loop. A. Hellens and P. Nummi.—p. 121.
Abdominal Panhysterectomy with Dissection in Paracervical Layer by Aldridge's Method. H. Zilliacus.—p. 132.

Seasonal Changes in Sensitivity of Toad to Gonadotropic Hormone.—In Finland, where the African toad, Xenopus laevis, has been used widely for pregnancy tests since 1947, it was observed that particularly during the winter false negative pregnancy reactions resulted in some cases. Since Swiss investigators had observed a similar tendency on the part of this toad, Toivonen and his collaborators investigated the seasonal fluctuations of the reaction threshold of this toad to gonadotropic hormone. Every month, for a year, they tested the reaction threshold of Xenopus laevis toads with a chorionic gonadotropic hormone preparation. They found that the reaction susceptibility of the toads fluctuated with the seasons in a ratio of 2:3, which is about the same as had been observed in Switzerland, 1,600 international units of hormone being the reaction threshold in the winter and 1,000 units in the summer, although the seasonal differences in the hours of daylight are greater in Finland. The threshold of sensitivity is also dependent on the body weight of the adult toad. If the weight of two animals stands in a relation of 1:2, then the amount of hormones required for ovulation are in a ratio of 1 to 3 or 4. For this reason the authors recommend that during the fall and winter smaller toads should be used for the pregnancy test. The quantity of hormone injected determines the number of eggs deposited.

Archiv für klinische Chirurgie, Heidelberg

268:447-540 (No. 5) 1951. **Partial Index**

Measuring the Closing Power of Anal Sphincter (Sphincterometry). F. Zettler.—p. 454.
Prolapse of Nucleus Pulposus with Special Consideration of Late Results. K. Albrecht.—p. 462.
Functional Changes of Respiration and Circulation After Abdominal Operations and Sacral Interventions in Their Importance for Development of Postoperative Respiratory Complications. H. Bruch.—p. 475.
Macronecrosis After Experimental Undercutting of Cerebral Cortex. F. J. Irsigler.—p. 493.
*The Fate of Patients with Arteritis. K. Denecke.—p. 506.
Surgical Treatment of Fractures of the Base of the Skull. W. Dressler. —p. 518.

Fate of Patients with Arteritis.—It has been demonstrated that endarteritis is an inflammatory process. Denecke prefers the term arteritis to endarteritis, because all layers of the arterial wall, rather than only the intima, are involved. He investigated the fate of 96 of a total of 200 patients with arteritis of the extremities in whom the disease had begun at least five years previously. He found that 26% had died of the disease and 30% had undergone amputation, some on both sides. The symptoms subsided in only 5% after a relatively short time and without loss of members. In comparing those who received conservative treatment with those who were subjected to lumbar sympathectomy, no difference could be noted in the course. Apparently, surgical intervention on the sympathetic exerts no decisive influence. The limited effectiveness and the fact that disturbances in sexual function often result from sympathectomy further restrict the indications for sympathectomy in arteritis. Patients who were subjected to amputation early, when only one of the extremities was involved, obtained freedom from symptoms in a high percentage of cases, and none of them died. Thus amputation seems advisable for larger numbers of cases in the early stages, at least until more effective therapy is available. The course of the disorder seems to a large extent to be predestined. In approximately one-half of the patients gangrene does not develop, even over periods of from 20 to 30 years. This observation makes the use of the terms "early" and "late" rather meaningless. It would be better to differentiate between the florid, acute stage and the stage of cicatrization. In approximately 10 to 20% of the patients the disease assumes a generalized form from the beginning, and in these cases it is always fatal. It remains to be seen whether cortisone or corticotropin will produce a fundamental change in the treatment.

Arch. Urug. Med. Cir. y Espec., Montevideo

38:119-228 (March) 1951. **Partial Index**

*Vitamin B_6 (Pyridoxine Hydrochloride) in Diseases of Peripheral Nervous System. G. J. Fernández.—p. 141.
*Reflex Lung: Experimental, Traumatic and Postoperative. Dramatic Reflex of Capillaries of Lung. Experiments Reproducing Clinical Findings. C. Stajano and J. J. Scandroglio.—p. 209.

Vitamin B_6 in Diseases of Peripheral Nervous System.—Vitamin B_6 (pyridoxine hydrochloride) was administered to 17 patients of either sex with diseases of the peripheral nerves including sciatica, facial neuralgia, peripheral facial paralysis, polyradiculoneuritis, acute poliomyelitis, and polyneuritis. The drug was given parenterally in doses of 25 to 50 mg., either daily or every other day for a period of one to three months. The tolerance of the patients to the drug was excellent. The drug when administered either alone or in association with thiamine or any of the drugs commonly used for disease of this type gave good results in all cases, with rapid regression of the disease, control of muscular pain and amyotrophy, and gain of muscular tonicity. In cases of facial paralysis the earlier the administration of pyridoxine hydrochloride the better the results. In diseases of long duration the treatment failed.

Reflex Postoperative Pulmonary Congestion.—According to Stajano and Scandroglio, the pulmonary congestion associated with diseases of the gallbladder, the biliary tree, and the pancreas, as well as that which follows abdominal surgery, is due to a violent bronchopulmonary response to abdominovisceral sympathetic reflexes. The response consists in massive vasodilatation in single or multiple segments of the lung, with consequent exudation of plasma and diapedesis of red blood cells into the interalveolar septa and into the alveoli, which become partially or completely obliterated. In a large group of dogs the authors experimentally produced (1) acute distention of the gallbladder and of the biliary tree, (2) acute artificial edema of the pancreas, and (3) prolonged and repeated traction on the mesentery of the small intestine. A control series of animals had the same operations as those of the animals in the experiments, but without trauma of the abdominal viscera. All the animals were killed 45 minutes after the maneuvers. Whereas the lungs of the controls were macroscopically and microscopically normal, those of the dogs subjected to visceral trauma showed the aforementioned congestion, edema, hemorrhage, and consolidation. The authors conclude that the results of the experiment support the theory of the neurovascular origin of transient atelectasis and pulmonary congestion appearing in the first day after abdominal surgery.

Beiträge zur Klinik der Tuberkulose, Heidelberg

105:429-518 (No. 5) 1951. **Partial Index**

Pleuropulmonary Fistula. E. Lehmann.—p. 429.
*Cavity in Lower Lobe and Its Treatment. E. Müller and G. Hollatz. —p. 446.
Development of Thoracoplasty. P. G. Schmidt.—p. 463.

Lower Lobe Cavity and Its Treatment.—Of 598 patients admitted to a tuberculosis hospital during a 30 month period, 79 (13.2%) had lower lobe cavities and of these, 19 were men and 60 were women. As a rule, the tuberculosis was of the productive-exudative type. In 34 of the 79 patients, the cavities had occurred primarily in the lower lobe, while in 45 there were primary foci in the upper lobe with secondary cavities in the lower lobe. Patients with disseminated tuberculosis showed a definite tendency to bilateral cavity formation in the lower lobe. Results of treatment demonstrated that only in exceptional cases may permanent closure of cavities be obtained with chemotherapy alone. This method of treatment proved valuable for the control of toxic processes and for inducing regression of recent foci but not for the control of tissue defects caused and maintained by valve mechanisms in the bronchial system and which require collapse techniques. Closure of cavity was obtained with pneumothorax alone in 23 patients. This method yields the best results in the shortest time. Phrenicoexeresis with or without pneumoperitoneum was the leading method of treatment in an additional 23 patients. Cavernostomy, pneumolysis, and various plastic operations were required in 24 patients. Of the 34 patients with primary lower lobe cavity, 30 (88%) obtained closure of cavities with the various collapse techniques. In the remaining four patients, who are still under treatment, results already obtained are promising, so that closure of the cavity may be expected in 95% of the patients with isolated lower lobe cavities. Lobectomy may therefore be indicated only in exceptional instances of primary lower lobe cavity. Of the 45 patients with secondary lower lobe cavities, 27 (60%) obtained closure with the various collapse techniques. In seven of the remaining 18 collapse therapy did not last long enough to be effective, while pneumonectomy was contraindicated by bilateral involvement in the majority of the other 11 patients. Thus pneumonectomy may also be indicated only in exceptional cases of secondary lower lobe cavity. Pneumonectomy must be considered in cases of tuberculous bronchostenosis in which chemotherapy and partial plastic operations have failed.

British Journal of Dermatology, London

63:283-342 (Aug.-Sept.) 1951

Acid-Base Balance of Skin. D. S. Anderson.—p. 283.
Xanthelasma Palpebrarum: Tumour of Sebaceous Glands. E. Woiff. —p. 296.
Penicillin in Peanut Oil and Beeswax for Treatment of Early Syphilis. H. N. Bundesen, J. Rodriquez, G. X. Schwemlein and others.—p. 302.
Aureomycin in Treatment of Kaposi's Varicelliform Eruption. J. A. McConachie and T. E. Anderson.—p. 307.
Ward Epidemic from Norwegian Scabies. J. T. Ingram.—p. 311.

British Journal of Physical Medicine, London

14:169-192 (Aug.) 1951

Surgical Aspects of Ankylosing Spondylitis. W. A. Law.—p. 171.
Stiff Joints—Their Pathology and Treatment, with Special Reference to Knee Joint. L. Gillis.—p. 177.

British Medical Journal, London

2:311-372 (Aug. 11) 1951

Mechanism of "Conversion." W. Sargant.—p. 311.
Experimental Psychoses and Other Mental Abnormalities Produced by Drugs. W. Mayer-Gross.—p. 317.
*Sodium Gamma-Resorcylate in Rheumatic Fever. J. Reid, R. D. Watson, J. B. Cochran and D. H. Sproull.—p. 321.
*Treatment of Some Bullous Eruptions with Aureomycin and Chloramphenicol. F. R. Bettley and E. A. Fairburn.—p. 326.
Reliability of Clinical Assessment of "Nutritional State." E. R. Bransby and W. H. Hammond.—p. 330.
Peripheral Circulation During General Anaesthesia and Surgery. R. B. Lynn and R. Shackman.—p. 333.
Family Doctor and Diabetic Coma. J. C. Pease and A. M. Cooke. —p. 336.

Sodium Gamma-Resorcylate in Rheumatic Fever.—Salicylic acid has a therapeutic action in rheumatic fever, yet its isomers, the metahydroxybenzoic and parahydroxybenzoic acids, are inactive. In an attempt to explain this difference in action, the physiochemical properties of salicylic acid and its isomers were compared. Results showed that salicylic acid has the ability to form an additional or chelate ring, while this property is not possessed by the isomers. The possibility that the therapeutic action of salicylic acid may depend on chelate ring formation was examined by studying the antirheumatic action of the monosodium of 2:6-dyhydroxybenzoic acid, referred to as gamma-resorcylate, in seven patients with rheumatic fever. Gamma-resorcylic acid was selected because it can form a double chelate ring and consequently is a much stronger acid than salicylic acid. Six of the seven patients received amounts varying from 1.8 gm. in 3 days to 10 gm. in 10 days, an average of 0.8 gm. per day. The seventh patient, a man weighing 224 lb. (101.6 kg.), was given the comparatively large dose of 7 gm. per day for four days. The average dose in the six patients was thus about one-tenth of the usual therapeutic dose of salicylate, and the amount given to the seventh patient was about equal to that of salicylate. Oral administration of the drug was followed by relief of acute arthritis and by a fall in temperature and pulse rate. Minor joint and muscle pains developed after the third day of treatment in five patients. About the same time, emotional instability, mental confusion, slight fever, and a dry tongue were observed in four patients. Puffiness of the face, increased hair growth on the back, and diminished glucose tolerance suggested a mild Cushing's syndrome in two other patients. In one of these, pericarditis developed immediately after arthritis had been relieved. All these side-effects disappeared after the drug was discontinued. After a temporary rise during the first few days of administration of the drug, there was a drop in the erythrocyte sedimentation rate, and the main biochemical changes were an immediate increase in nitrogen excretion in the urine followed later by a chloride and water diuresis. Gamma-resorcylate in much smaller doses thus was observed to be as effective as salicylic acid in treatment of rheumatic fever, but it may have little or no advantage over salicylic acid, as beneficial and undesirable effects seem to be equally potentiated. The evidence, though still not conclusive, favors the conclusion that the therapeutic action of salicylic acid and gamma-resorcylate is related to their common property of chelate ring formation.

Antibiotic Treatment of Bullous Eruptions.—Eight patients, three with pemphigus vulgaris, two with pemphigus vegetans, one with pemphigus erythematosus, and two with dermatitis herpetiformis were treated with aureomycin and chloramphenicol (chloromycetin®). A standard dose of 2 gm. daily (0.25 gm. every three hours) was adopted, with an initial dose of 4 gm. In some cases it seemed advantageous to give double this standard dose. Vitamin supplements were given by mouth during the period of antibiotic administration. In this small series of cases aureomycin appeared to influence the production of bullae in both pemphigus vulgaris and bullous dermatitis herpetiformis. The virus etiology of these two diseases is still unproved, and it may be that the action of aureomycin is not against an infective agent but is a direct effect on the cohesion of the cells of the epidermis. In one of the patients with pemphigus vulgaris, nausea and vomiting were a serious complication, and the authors had to choose between a relapse of pemphigus and this distressing gastric upset. In pemphigus vegetans, in which bullae are much less prominent, chloramphenicol appeared to be effective in melting away the vegetating masses at a surprising speed, while in one of the two patients, aureomycin seemed to be ineffective in the dosage given. Response to treatment was usually obtained within a few days. Other observers believe that these antibiotics need to be continued for at least a month to six weeks, if early relapse is to be avoided. Some of the unsuccessful trials of these drugs that have been reported may have been due to either too small dosage or to too short therapeutic trial. None of the authors' cases were complicated by much secondary infection. Treatment was followed by a suppression of the primary lesions of the disease, an effect clearly not due simply to removal of secondary sepsis. The value of smaller maintenance doses as a means of preventing eventual relapse could not be determined, because of yet insufficient supplies of the two drugs.

2:373-428 (Aug. 18) 1951

*Treatment of Thyrotoxicosis with Radioactive Iodine. G. W. Blomfield, J. C. Jones, A. G. Macgregor and others.—p. 373.
*The "Mess Trick" and the "Fainting Lark." P. Howard, G. L. Leathart, A. C. Dornhorst and E. P. Sharpey-Schafer.—p. 382.
Pulmonary Haemosiderosis. P. Ellman and A. Gee.—p. 384.
Idiopathic Pulmonary Haemosiderosis: Report of Case in Adult. M. Walton and A. A. Williams.—p. 390.
Emphysematous-Bullous Form of Bronchial Cancer. M. R. Castex and E. S. Mazzei.—p. 391.
Anuria in Acute Nephritis. J. D. N. Nabarro and A. G. Spencer. —p. 393.
Clinical Diagnosis of Dissecting Aneurysm of Aorta. O. D. Beresford. —p. 397.

2:429-504 (Aug. 25) 1951

My Academic Life. H. A. Harris.—p. 429.
Consulting Medicine. A. H. Douthwaite.—p. 431.
Forty Years in Public Health. A. Daley.—p. 434.
Surgery. M. Page.—p. 436.
Private Practice. L. W. Batten.—p. 437.
Country Doctor. G. O. Barber.—p. 439.
Colliery Practice. D. G. Williams.—p. 441.
Full-Time Consultant. F. A. Jones.—p. 443.
Professor in the Laboratory. R. J. V. Pulvertaft.—p. 446.
Industrial Medicine. D. Stewart.—p. 448.
Causes of Failure in Examinations. T. R. Henn.—p. 461.
Experiment on Teaching Value of Scientific Film. H. Steinberg and H. E. Lewis.—p. 465.

2:505-558 (Sept. 1) 1951

Action of Sex Hormones on Experimental Diabetes. B. A. Houssay. —p. 505.
Oral Treatment of Polycythaemia Vera with β-Naphthyl-di-2-Chloroethylamine (R48). K. Iversen and E. Meulengracht.—p. 510.
Observations on All Births (23,970) in Birmingham, 1947: IV. "Premature Birth." T. McKeown and J. R. Gibson.—p. 513.
Natural History of Venous Thrombosis. C. Raeburn.—p. 517.
Angina in Analgesic Limb. J. B. Harman.—p. 521.
Fatal Haematemesis, from Oesophageal Varices, in Presence of Large Portal-Caval Anastomosis. T. S. L. Beswick and H. Butler.—p. 522.
Aureomycin: Its Topical Use in Some Skin Diseases: Clinical Study. B. Solomons.—p. 525.
Treatment of Gonorrhoea with Terramycin. R. R. Willcox.—p. 527.

Radioactive Iodine in Thyrotoxicosis.—This paper presents the results of the treatment of 20 patients with thyrotoxicosis with radioactive iodine (I^{131}). The biological effect on the tissues of the radiation from radioactive iodine is similar to that of x-rays; however, because iodine is in general specifically concentrated in the thyroid gland, it is possible to deliver a very high local dose of radiation. The greater part of the therapeutic effect of radioactive iodine is provided by the beta radiation emitted by the isotope, and, as this does not travel further than 2.2 mm. in tissue, there is little effect on the organs beyond the capsule of the gland. It was possible to induce a satisfactory remission in every case, but some required several doses of the isotope. Larger doses were needed for toxic nodular goiter than for Graves' dis-

ease. A technique is described by which the gland size may be accurately determined and precise dosage of radiation calculated. Induction of malignancy in the gland as a result of internal radiation is improbable, and the immediate advantages of this form of treatment in many cases outweigh the remote risks of malignant change. The simplicity, safety, efficiency, and lack of immediate complications of radioactive iodine therapy make it the treatment of choice for thyrotoxic patients in the older age groups. It is the most satisfactory treatment for all patients in whom thyrotoxicosis has recurred after operation.

The "Mess Trick" and the "Fainting Lark."—In the "mess trick" (played in a mess or at a party) a victim is persuaded to hyperventilate for about a minute and then his chest is suddenly compressed by someone standing behind him. He usually loses consciousness in a few seconds. In the "fainting lark," the boy squats and takes 20 deep breaths, then rises quickly to his feet, closes his nostrils with his fingers (as for inflation of the Eustachian tube by Valsalva's method), and blows hard. He then drops to the ground and "passes out" for a period of about half a minute. In the "mess trick" hyperventilation leads to dilatation of muscle blood vessels and constriction of brain blood vessels. Compression of the chest causes the victim to perform an involuntary Valsalva maneuver, which in the presence of peripheral dilatation is sufficient to reduce effective blood pressure and consequently cerebral blood flow to levels that cause unconsciousness. The mechanism in the fainting lark is essentially the same, except that a voluntary Valsalva replaces the involuntary response to chest compression with the added factor of the fall in blood pressure produced by rising from the squatting posture.

Deutsche medizinische Wochenschrift, Stuttgart

76:1041-1100 (Aug. 31) 1951. **Partial Index**

Surgical Treatment of Mitral Stenosis: Indications. O. Bayer and E. Derra.—p. 1044.
Early Diagnosis and Therapy of Toxoplasmosis in Adults. H. Franke and H. G. Horst.—p. 1049.
Irradiation Therapy of Hyperthyroidism by Means of Radioactive Iodine. W. Horst.—p. 1052.
Clinical Aspects of Adrenocorticotropic Hormone and of Cortisone. L. Weissbecker and W. Ruppel.—p. 1062.
Lipotropic Substances in Therapy of Hepatic Diseases. H. Kalk. —p. 1065.
*Treatment of Herpes Zoster with Ganglion Blocking Agent, Pendiomid (9295 Ciba). L. Norpoth, P. Drügemöller and T. Flossdorf.—p. 1066.
Indications for Therapeutic Use of Novocaine in Internal Medicine. R. Brandner and W. Müller.—p. 1069.
*Results of Treatment with Male Hormones in Progressing and Metastasizing Carcinomas of the Female Genitalia. F. Prediger.—p. 1078.
Diagnosis and Treatment of Bronchial Tuberculosis. W. Faass.—p. 1080.

Ganglion Blocking Agent in Treatment of Herpes Zoster.—The ganglion-blocking preparation "pendiomid" (N, N, N'-N'-3-pentamethyl-N, N'-diethyl-3-aza-pentane-1,5-diammonium dibromide), which has a selective blocking effect on the sympathetic and parasympathetic ganglia of the truncus sympathicus, was used successfully by the authors in eight cases of herpes zoster. Pain was relieved, and there was rapid healing of the cutaneous lesions. It is impossible to give a definite dosage scheme for this drug, but the authors feel that it is best to begin with an intramuscular injection of from 40 to 50 mg. Since the drug reduces blood pressure and involves some danger of collapse, careful supervision of blood pressure and pulse rate are required during treatment. By beginning with comparatively low dosage and by increasing the daily dose by 10 or 20 mg. until a total daily dose of 100 mg. has been reached, the authors were able to prevent complications. The total doses given in the cases here reported varied between 300 mg. and 2,450 mg. The duration of treatment also varied. The authors never had to use circulatory stimulants. Toxicologic studies carried out in the laboratory in which this drug was developed revealed that its toxicity was less than that of tetraethylammonium bromide or chloride. Ganglion-blocking drugs like the one discussed here promise to play an important part in the new therapeutic approach to disorders involving disturbances in the sympathetic nervous system, and in which radical surgical interventions such as resection of the sympathetic have been employed.

Male Sex Hormones in Metastasizing Carcinomas of Female Genitalia.—Seventy-eight female patients with advanced and metastasizing malignant tumors of the genitalia were given in addition to the customary radium and roentgen treatment implantations of testosterone tablets or injections of suspensions of testosterone. In 52 of the 62 patients in whom evaluation was possible, definite subjective improvement was observed, in 8 there was no change and in 2 further deterioration was evident. In 24 of the patients improvement could also be demonstrated objectively. The unpleasant reaction to irradiation therapy was lessened or entirely absent. Tumor growth seemed to be inhibited. The responsiveness to x-ray treatment seemed to be unchanged, and the period of survival seemed to be longer.

Día Médico, Buenos Aires

23:2297-2336 (Aug. 16) 1951. **Partial Index**

Diagnosis and Treatment of Tuberculous Cavitation. J. Tamini and L. M. Zorraquín.—p. 2309.
*Persistence of Impregnation of Thorium Salts in Liver and Spleen. C. A. Estape, O. Rossenblat and J. Blixen.—p. 2328.

Persistence of Thorium Salts in Liver and Spleen.—Estape and collaborators say that although colloidal thorium dioxide (thorotrast®) is now rarely used for roentgen examinations, their findings in one case in which it was used deserve publication, since it is the first case in the world literature of visceral impregnation with this substance persisting for 14 years. For roentgen examination of the liver, the patient had had two injections of 20 cc. each of colloidal thorium dioxide, that is, about half the usual dose of 75 cc. For many years after the examination the patient complained of digestive disorders at long intervals, with recurrent pain in the right hypochondrium and the heart. After 14 years a roentgenogram of the chest showed radiopaque images of the liver and the spleen, both of which appeared shrunken and cirrhotic. An opaque transverse chain of lymph nodes was also visible in the epigastrium. The thorium in the tissues of the patient showed a radioactivity of 0.03 milliroentgens per hour when measured with the Geiger-Müller counter. The radioactivity was located over the right hypochondrium and the deep epigastric zone and had the quality of gamma rays.

Journal of Bone and Joint Surgery, London

33B:299-492 (Aug.) 1951

*Experience with Use of Refrigerated Homogenous Bone. P. D. Wilson. —p. 301.
Homografts and Bone Bank. J. J. Herbert.—p. 316.
Studies of Paget's Disease (Osteitis Deformans). M. Lake.—p. 323.
*Volkmann's Ischemic Contracture and Its Relationship to Fracture of Femur. S. A. Thomson and L. J. Mahoney.—p. 336.
Ischemic Necrosis and Regeneration of Tibialis Anterior Muscle After Rupture of Popliteal Artery. J. S. Horn and S. Sevitt.—p. 348.
Treatment of Established Volkmann's Contracture by Tendon Transplantation. A. Parkes.—p. 359.
Prolonged Traumatic Arterial Spasm After Supracondylar Fracture of Humerus: Report of Case. J. C. F. Cregan.—p. 363.
Ischio-Femoral Arthrodesis by Posterior Approach. J. A. Cholmeley and E. J. Nangle.—p. 365.
Observations on Hallux Valgus: Based on Controlled Series. R. H. Hardy and J. C. R. Clapham.—p. 376.
Unsuitability of Polythene for Movable Weight-Bearing Prostheses: Report of Case of Cup Arthroplasty of Hip. P. H. Newman and J. T. Scales.—p. 392.
Two Curve Patterns in Idiopathic Structural Scoliosis. J. I. P. James. —p. 399.
Alkaptonuric Arthritis: Report of Case. S. Sacks.—p. 407.
Method of Correcting Metatarsus Primus Varus: Preliminary Report. V. H. Ellis.—p. 415.
Internal Fixation of McMurray Osteotomy with Trifin Nail. R. Roaf. —p. 418.
Irregular, Familial Chondro-Osseous Defect: With Suggestions Concerning Nomenclature of Generalised Osseous Dystrophies. W. P. U. Jackson.—p. 420.
Scleroderma and Melorheostosis: Report of Case. N. M. Thompson, C. E. L. Allen, G. S. Andrews and F. N. Gillwald.—p. 430.
Injuries of Atlanto-Axial Joint. A. R. Hamilton.—p. 434.

Refrigerated Homogenous Bone Grafts.—Results of experiments carried out on dogs to compare healing of fresh autogenous and frozen homogenous bone transplants suggested that the autogenous grafts have some advantage over refrigerated homo-

genous grafts, in that healing takes place more rapidly, but the end results are the same. Microscopic studies of specimens of both autogenous and refrigerated bone transplants that had been recovered at secondary operations from patients in whom they had previously been implanted for arthrodesis or other purposes, reported by the author in a previous paper, did not show significant difference in the rate or method of repair. Refrigerated homogenous bone transplants were used for 307 operations performed on 259 patients up to Jan. 1, 1950. Clinical results in these patients showed the bone to be well tolerated. The rate of infection in clean cases was 2.6%. Loss of bone occurred in only two cases. Of the 259 patients, 248 had been followed up for six months or longer, making evaluation of final results possible. Of these 248 patients successful results were obtained in 210 (85%). These results were comparable with those obtained with autogenous grafts. The healing of cancellous transplants took place more rapidly than with cortical grafts. Transplants that had been preserved for more than one year did not heal as well as those that had been preserved for a shorter period, and the failure rate was higher. With long preservation there is danger of dehydration, and dried-out specimens should not be used. The operation of a bone bank is safe and practical. It offers great advantages to the patient and the surgeon from the standpoint of availability, abundance, and the elimination of the necessity of secondary operations to obtain bone. When a bone bank is available the number of operations in which bone transplants are used will show a sharp increase.

Volkmann's Ischemia Complicating Fracture of Femur.—The occurrence of acute Volkmann's ischemia in the lower extremity complicating fractures of the femur is reported in 13 children. In the eight cases reported in detail, there was fracture in the upper half or upper third of the shaft. Treatment of the fracture consisted in application of a Buck's extension and a Thomas splint. A deep boring pain in the central calf area, which was difficult to control with sedatives and was not influenced very much by the release of bandage, was the common feature. A sensation of numbness soon appeared in the toes and foot and extended occasionally upward to the painful calf. This was associated with a stocking type of centripetal anesthesia. All the cases followed a similar pattern. The tender muscle infarcts accounted for the calf signs with patchy erythema on the skin when pulsations were still present and the leg and foot were gradually increasing in size. Later on the arterial spasm became noticeable, resulting in a gradually disappearing pulse and pallor of the extremity. Paralysis was a constant feature and so was the uniformly symmetrical return of function in the limbs that recovered. The best method of prevention and cure is not only the awareness and early recognition with immediate first aid measures to release pressure but in addition a widespread release of vasospasm. Muscle decompression with or without arterial exploration proved to be of no value. Of the seven patients treated with sympathetic block (with a high spinal anesthetic) six were cured and only one was a therapeutic failure. Transfixion of the calcaneum with a Kirschner wire for traction was carried out in several cases; it has the advantage of eliminating all bandages, suspending the tender calf, and preventing an equinovarus deformity. Microscopic studies of involved muscles were made in several cases. The only essential difference between the histological appearance of muscle that recovers and that which does not appears to be degeneration of muscle nuclei. The significance of engorged blood vessels remained doubtful. Despite the typical gross appearance of an infarct, some regeneration of muscle may occur.

Journal of Endocrinology, London

7:103-202 (June) 1951. **Partial Index**

Effect of Destruction of Germinal Epithelium on Numbers of Oocytes. A. M. Mandl and S. Zuckerman.—p. 103.
Assay of Diabetogenic Pituitary Preparations. E. Reid.—p. 120.
Qualitative Analysis of Urinary Phenols and Oestrogens. R. J. Boscott. —p. 154.
Observations on Intravaginal Assay of Natural Oestrogens Using Aqueous Egg Albumin as Vehicle of Administration. J. D. Biggers.—p. 163.
Antagonism of Vaginal Actions of Oestrogen by Progesterone and Other Steroids. J. M. Robson and A. A. Sharaf.—p. 177.
Serum 'Hormonal' Iodine in Relation to Thyroid Function and Treatment with Adrenocorticotrophic Hormone (ACTH). W. T. Salter and I. Rosenblum.—p. 180.

Journal Neurol., Neurosurg. & Psychiatry, London

14:153-236 (Aug.) 1951

Surgical Treatment of Bleeding Intracranial Aneurysms. M. A. Falconer. —p. 153.
Sensory Disturbances in Cortical Wounds with Special Reference to Pain. J. Marshall.—p. 187.
Confirmation of Rosenow Antibody-Antigen Skin Reaction in Idiopathic Epilepsy. E. A. Bering Jr.—p. 205.
Local Sign in Autonomic Responses. A. Elithorn, M. F. Piercy and M. A. Crosskey.—p. 209.
Subacute Necrotizing Encephalomyelopathy in an Infant. D. Leigh. —p. 216.
Use of Marchi Staining in Later Stages of Human Tract Degeneration. M. C. Smith.—p. 222.
Neuroticism and Emotional Instability in High-Grade Male Defectives. N. O'Connor.—p. 226.

Klinische Wochenschrift, Heidelberg

29:525-556 (Aug. 15) 1951. **Partial Index**

Investigations on Life Span of Transfused Erythrocytes in Patients. B. Schlegel and H. Böttner.—p. 525.
Nystagmographic Investigations on Vestibular Damage Following Treatment with Streptomycin. L. Stadler and H. Keser.—p. 531.
Determination of Blood Volume by Means of Radiophosphorus (P^{32}). M. Schwaiger and K. Schmeiser.—p. 536.
*Rapid Bacteriologic Test for Determination of Resistance to Antibiotics. E. Walch.—p. 540.
Behavior of Blood Sugar with Insulin Therapy in Patients with Rheumatic Disorders. G. Stepantschitz and E. Kresbach.—p. 549.

Rapid Tests for Determining Resistance to Antibiotics.—Two years ago Walch demonstrated, by means of the phase-difference microscope, morphological changes that had been produced in gonococci exposed to penicillin. These changes were demonstrable in stained urethral smears from two to three hours following injection of 200,000 units of penicillin. The same changes that were observable in the gonorrheal pus of a pencillin-treated patient could also be demonstrated on gonococcic cultures. The method employed was somewhat complicated, but by combining it with the method used by Poetschke and Bommer for the observation of living bacteria under the phase-difference microscope, a relatively simple and rapid test for the determination of the resistance to antibiotics was developed. The bottom of a Petri dish is covered with a thin layer of ascitic agar, and a loopful of bacteria is streaked on evenly. Immediately after this, a coverglass is placed over one part of the dish and it is sealed off on the edges with petrolatum. One drop of the antibiotic solution that is to be tested is then dropped onto one or several places on the Petri dish, and coverglasses are also placed over these areas. Then the dish is placed into the incubator at 37 C for up to three hours. At this time microcolonies of all organisms are seen in the area to which no antibiotic has been applied, whereas in the places treated with antibiotic only those organisms show growth that are resistant to the antibiotic in question. A longer period of incubation proved inadvisable, since it caused effacement of the microcolonies so important in the determination. For further corroboration of results, the coverglasses can be lifted off following examination with the phase-difference microscope and the adhering organisms can be stained with the gram or other stains. Illustrations show the results obtainable with this method. With regard to the determination of the concentration of antibiotics required, this method is not so exact as some others, but it is simple and above all rapid; resistance can be ascertained within three or four hours.

Medical Journal of Australia, Sydney

2:1-32 (July 7) 1951

*Mortality in Australia from Cancers Peculiar to the Female. H. O. Lancaster.—p. 1.
Evidence of Adrenal Cortical Function in Pink Disease. D. B. Cheek, B. S. Hetzel and D. C. Hine.—p. 6.
*Diffuse Disseminated Platelet Thrombosis (Thrombotic Thrombocytopenic Purpura), with Report of Two Cases. D. C. Wallace.—p. 9.
Oesophagectomy for Carcinoma: Some Points in Management. F. F. Rundle.—p. 13.
Endemic Leptospirosis in Victoria. N. A. M. Wellington, W. J. Stevenson and A. A. Ferris.—p. 15.

Mortality from Cancers Peculiar to Women.—Lancaster analyzes the mortality of women from cancers of the breast and of the female genitalia on the basis of data in Australian official statistics. He found that these cancers account for an important

part of all deaths in women. Cancer of the breast and cancer of the ovaries are both increasing in frequency as a cause of death. At some ages there has been, over the last 40 years, a decline in the mortality from cancer of the uterus. The effect of parity and of conjugal condition on frequency has been noted, it being confirmed that cancer of the ovaries is relatively common among those who have not borne children, cancer of the uterus is commoner among the married, and cancer of the breast is commoner among persons who have never married.

Diffuse Disseminated Platelet Thrombosis.—The name thrombotic thrombopenic purpura or diffuse disseminated platelet thrombosis has been given to a new clinical and pathological entity the principal clinical features of which are a rapid onset with malaise and pyrexia, joint pains, a purpuric rash, hemolytic anemia, and thrombopenia. The disease follows a rapid course, ending with obscure neurological signs followed by death. The essential feature found at autopsy is the presence of platelet thrombi widely disseminated throughout the small arterioles, capillaries, and venules. Two cases of this disease are described, both ending in renal failure, paralysis, and death. Autopsy revealed diffuse disseminated platelet thrombosis in both cases, while one patient also showed histological features resembling polyarteritis nodosa. Although the presence of glomerulitis in this disorder was reported in 1948, it was not previously recognized as a common feature. It was pronounced in both of the cases reported here and was severe enough to produce renal failure in both. Possibly, it is a major feature of the syndrome. Again, as the etiology of this disease is completely unknown, it is perhaps worthy of note that these two cases both began in the same fashion. There was a history of acute infection, of the leg in one case and of the throat in the other case. One of the patients was treated with procaine penicillin, the other with penicillin and a sulfonamide. Although this only suggests an allergic basis of the disease, it is an aspect that should be followed up. It is also suggested that this new disease may be related to the diseases of the diffuse collagen group.

Minerva Ginecologica, Turin

3:305-342 (June) 1951

Amenorrhea Due to Total or Partial Atresia of Uterine Cavity Following Curettage. M. Nizza and E. Robecchi.—p. 313.
Late Results of Surgical Intervention on Cervix Uteri in Therapy of Sterility. P. Bailo.—p. 317.
*Introduction of Blood in Cranial Direction into Carotid Artery. P. Bertoletti.—p. 329.
Analgesia During Second Part of Labor According to the Method of the Göttingen Clinic. E. Gyarmati.—p. 327.

Blood Transfusion into Carotid Artery.—A woman, 35, was admitted to the hospital with pains in the lower abdomen associated with vomiting and fainting. The diagnosis was probable extrauterine pregnancy with the fetal sac growing out into the peritoneal cavity. Urgent intervention was undertaken with the patient under general anesthesia. Hemorrhage was severe. Fifteen minutes later the pulse rate was 160, systolic pressure had dropped to 100 mm. Hg, and the patient's condition had become worse. Injections of a 25% solution of nikethamide and of a commercial adrenal extract and venous blood transfusion were carried out without success. At the end of the operation, which lasted 45 minutes, the patient was in severe shock. The pulse was imperceptible, the breathing superficial, and the skin and mucous membranes were livid. Forty minutes after the operation when heart action and respirations had almost ceased, a blood transfusion was given into the carotid artery in a cranial direction. After introduction of 150 cc. of blood, the pulse beat increased in rate and rhythm, the mucous membranes regained their color, and the systolic pressure was 90 mm. Hg. After introduction of 1,000 cc. of blood the patient left the operating room with full pulse, systolic pressure of 140 mm. Hg, and in good general condition. Thus, blood transfusion into the carotid artery in a cranial direction was the method of choice in this case. The author reports on three additional cases of severe shock due to hemorrhage in which this intervention was performed. The gratifying results obtained confirm the concept advanced several years ago that in instances of severe shock due to hemorrhage in which recovery seems almost impossible resuscitation should be attempted by first supporting the nervous centers rather than the heart, because they are injured sooner and more severely from lack of oxygen.

Philippine Medical Association Journal, Manila

27:333-396 (May) 1951. **Partial Index**

Neurological Surgery in America Today: Review. R. H. Gustilo.—p. 361.
Schistosomiasis and Malaria from the Surgeon's Viewpoint. P. M. Recio. —p. 373.

Zeitschr. f. d. ges. exper. Med., Heidelberg

117:439-558 (No. 5) 1951. **Partial Index**

Importance of Liver for Acetalphosphatide Content of Serum. G. Schäfer and M. Taubert.—p. 439.
Analysis of Sympathicomimetic Circulatory Effects. H. Gladewitz, H. Marguth and H. Schaefer.—p. 445.
Influence of Nitrogen Mustard on Spermiogenesis of Laboratory Rats. H. Goldeck and H. Hagenah.—p. 467.
Diazo Reaction of Protein-Free Bilirubin Solutions. H. Kilchling and H. A. Kühn.—p. 481.
*Morphological Structural Changes of Anterior Pituitary and of Adrenals on an Emotional Basis. J. Schunk and H. V. Cornelius.—p. 497.
*Heparin to Prevent Coagulation of Pleural Exudates. R. Marx and W. Lang.—p. 509.
Cellular Metabolism and Inflammation: I. Metabolic Disturbances in Liver After Poisoning with an Allyl Compound. L. Benda, A. Locker and E. Rissel.—p. 519.
Changing the Irritability of the Respiratory Center by Drugs Reducing this Irritability: Method of Determining Irritability. H. Julich.—p. 539.

Structural Changes in Anterior Pituitary and Adrenal Elicited by Emotion.—Until very recently psychic trauma was given hardly any consideration in the study of the genesis of organic disease. Selye, however, accepted psychic stimuli as "stress" factors. On the basis of Selye's concepts on the general adaptation syndrome, Schunk and Cornelius subjected cats to emotional stress. One group was exposed daily for two hours to contact with dogs, which had been trained to annoy but not to injure the cats. Asthenia, tremors, twitching, and, toward the end of the three-month period of stress, even atactic disturbances began to develop in the cats. All these signs were absent in the control group of animals not exposed to stress. Occasional electrocardiographic studies revealed ventricular extrasystoles and interference dissociation and in one animal signs of coronary insufficiency. The pituitary and adrenal glands of both groups of cats were studied histologically. In contradistinction to the controls, all experimental animals showed severe degenerative changes in the pituitary; three of four animals showed in addition a significant increase in the basophilic cells at the expense of the chief cells and of the eosinophils, and the adrenal cortex showed atrophy of the lipoid substances, whereas in the fourth animal it was hyperplastic. These findings were ascribed to the phase of exhaustion or resistance within the scope of the general adaptation syndrome.

Heparin to Prevent Coagulation of Pleural Exudates.—Marx and Long point out that injection of anticoagulants, particularly of heparin, into pleural exudates has been studied by numerous investigators. Their own studies were designed not so much to estimate the clinical value of anticoagulants for this purpose as to analyze the conditions that influence coagulation in pleural exudates. Pleural exudates were obtained by the usual puncture method from two patients with tuberculous pleurisy, from one patient with suppurating postpneumonic exudate, from two patients with cardiac insufficiency who had a stasis transudate, from one with exudative pleurisy, and from one with pulmonary tumor. Pleural exudates and transudates did not show a uniform reaction when heparin or citrate solution were added in vitro. There are pleural exudates that coagulate in vitro, despite the presence of a significant quantity of anticoagulating substance. It was shown by prothrombin and thrombin time tests that heparin and a substance known as thrombocid were capable of reducing the coagulating level of various exudates. Some pleural exudates seem to lack substances that are necessary to give heparin its full effect in blood or blood plasma, or such exudates contain titers of thrombokinase or proteinase that in the in vitro test may eliminate the effect of heparin. Since the heparin effect becomes evident in such pleural fluids when normal plasma is added, it is probable that the heparin complement is inadequate in such exudates. Treatment of pleural exudates with a combination of anticoagulants may bring results.

BOOK REVIEWS

The Pharmacologic Principles of Medical Practice: A Textbook on Pharmacology and Therapeutics for Medical Students, Physicians and the Members of the Professions Allied to Medicine. By John C. Krantz, Jr., Professor of Pharmacology, School of Medicine, University of Maryland, Baltimore, and C. Jelleff Carr, Associate Professor of Pharmacology, School of Medicine, University of Maryland. Second edition. Cloth. $10. Pp. 1116, with illustrations. Williams & Wilkins Company, Mount Royal and Guilford Aves., Baltimore 2, 1951.

This edition is a distinct improvement over the first edition. This improvement, according to the authors, was made possible by the "many friendly critical and constructive suggestions sent by teachers of pharmacology who have used the first edition as a text." Typographical errors have been corrected, and most chapters have been enlarged. For example, the chapter on general anesthesia now includes Guedel's chart of the stages of anesthesia, which was not in the first edition. Two new chapters on chemotherapy have been added. Drugs are classified according to organ systems, and each pharmacological chapter is preceded by a short orientation chapter that reviews the anatomy and physiology of the organ to be discussed. This practice makes this textbook ideal for nurses and pharmacy students. As a textbook for medical students this edition is concise, modern, and readable. It will fill a distinct need in pharmacology.

Psychological Dynamics of Health Education. Proceedings of Eastern States Health Education Conference, April 13-14, 1950. [Under auspices of New York Academy of Medicine.] Cloth. $2.50. Pp. 134. Columbia University Press, 2960 Broadway, New York 27; Oxford University Press, Amen House, Warwick Sq., London, E.C.4, 1951.

Thirteen specialists participated in this searching study of health education motivation, each from a different approach, and a stimulating review of the subject has resulted. The conclusion of Dr. Iago Galdston, secretary of the committee by which the program was developed, that there is no treatment comparable in value to health education appears justified. Among the subjects discussed are motivation in the adolescent and adult through parent and older-age groups, mass mediums, union activities, sociologic implications, nutrition education, and venereal disease education, and the contribution of hospital services to health education. The various contributors are careful to keep within the limits of their assignments, and this makes for clear-cut presentation and understanding. The New York Academy of Medicine and its steering committee of the Annual Eastern States Health Education Conference has performed another creditable service in developing this program and presenting it in this permanent form.

Spatial Vector Electrocardiography: Clinical Electrocardiographic Interpretation. By Robert P. Grant, M.D., and E. Harvey Estes, Jr., M.D. Cloth. $4.50. Pp. 149, with 41 illustrations. Blakiston Company (division of Doubleday & Company, Inc.), 1012 Walnut St., Philadelphia 5, 1951.

While Grant and Estes were on the teaching staff at Emory University Medical School they taught electrocardiography to medical students and physicians. In 1949 their notes and diagrams used in teaching spatial vector electrocardiography were published privately by the medical school. The present volume, therefore, is really a second edition of the book published in 1949, much revised and expanded. The authors have tried to present a complicated subject in a form that is easily understood. Nevertheless, this book is only for those who already have a good working knowledge of clinical electrocardiography. The spatial vectors in this work are derived from the standard, unipolar limb, and unipolar chest leads of the ordinary electrocardiogram. The methods by which this is done are illustrated by many well-chosen diagrams. The clinical applications of the spatial vector method of electrocardiography are fully discussed as well as the possible applications to research. This includes the use of this technique in determining the electrical position of the heart, the various effects produced by localized areas of ischemia and infarction, and the ventricular gradient. The spatial vectors of the T wave and of the QRS complex both in the normal state and in disease are discussed in detail.

The authors have not discussed any of the several direct methods of vector electrocardiography and have wisely refrained from discussing some of the more controversial aspects of this subject. The specialist or teacher in cardiovascular diseases should have this excellent monograph in his library as a reference book.

Diagnostik der Kinderkrankheiten mit besonderer Berücksichtigung des Säuglings: Eine Wegleitung für praktische Ärzte und Studierende. Von Professor Dr. E. Feer. Sixth edition. Cloth. $9. Pp. 461, with 285 illustrations. Springer-Verlag, Mölkerbastei 5, Wien I, 1951.

This edition has been enlarged and improved, and much new material has been added. The author has attempted to make the work all-inclusive; hence the book appears in a concise yet an encyclopedic form. It was not written for the skilled specialist or for the student who intends to specialize in pediatrics; it is meant, however, mainly for the general practitioner, who in his daily work feels the necessity of filling those inevitable gaps that must appear in such a rapidly growing and complex subject as pediatrics. With these thoughts in mind the author has arranged the subject matter according to symptomatology and clinical manifestations; in this way a sort of condensed reference book on differential diagnostic problems has resulted. This book has been looked on as a standard among German-speaking physicians for many decades. The new edition brings it up to date by the addition of many diseases that have now become of differential diagnostic interest and importance. Many of the older illustrations have been replaced by newer and better material. The book can be recommended for anyone interested in pediatrics and who has a reading knowledge of German.

The Cure of Rheumatoid Arthritis and Related Conditions (Osteoarthritis, Bursitis, Frozen Shoulder, etc.) by Physical Medicine: A Result of Thirty Years' Study (Original Investigations). By Joseph Echtman, M.D. Cloth. $6. Pp. 251, with 17 illustrations. Herald Square Press, Inc., 233 Spring St., New York 13, 1951.

Although this book purports to be a complete text on the cure of rheumatoid arthritis and related conditions (e. g., osteoarthritis, bursitis, and frozen shoulder), well-established methods of treatment for such conditions are ignored or brushed aside. Echtman begins with the contention expressed in the legend under Figure 1 that only three pieces of apparatus (he illustrates an ancient ultraviolet lamp, an obsolescent long wave diathermy machine, and a very old galvanic sinusoidal apparatus) "are necessary for the treatment of all the conditions discussed in this volume." These conditions include rheumatoid arthritis, psoriatic arthritis, ankylosing spondylitis, Still's disease, osteoarthritis, bursitis, and traumatic arthritis. The statement that "ionization and interrupted surging sinusoidalization" present "a definite cure for fibrous ankylosis (flexion contractions) of joints" is typical of the many unsound and erroneous conclusions.

Another example of the book's unsound approach to the total problem of the care of the patient with rheumatoid arthritis is the suggestion that "raw (unpasteurized) cream, unheated molasses and raw sugar cane juice" be included in the diet. Again on pages 55 and 56 the author tells of a personal experience in which he accidentally passed "a strong electric current of 200 volts and 50 ma." through his own body from hand to hand. Because the current seemed "to spread upward to the neck and towards the head (brain) but not downwards toward the heart," he concluded that the current travels "via the nervous system and not via the vascular system." This statement overlooks the simple laws of physics with regard to the passage of

The reviews here published have been prepared by competent authorities and do not represent the opinions of any official bodies unless specifically stated.

electric currents along the paths of least resistance and along the most direct pathway from electrode to electrode.

The contention that exercises "are of little therapeutic value" in treatment of rheumatoid arthritis will hardly be confirmed by any experienced specialist in rheumatology or physical medicine. Other examples could be cited but would be superfluous. This book cannot be recommended.

The Odyssey of Modern Drug Research: Pharmaceutical Manufacture; its Science and Economics. By Robert Burlingham. Cloth. Pp. 124, with illustrations. Upjohn Company, P. O. Box 831, Kalamazoo, 99, Michigan, 1951.

The story of the development of modern therapeutic agents is too often inadequately appreciated. Vaguely, we know that someone discovers them, others study their action and determine their usefulness, and still others make them available for prescription use. This book presents, in sufficient detail, the story of the discovery and development of some of these agents. No one can follow it without gaining a greater respect for this triad of workers, whose combined efforts have resulted in our modern chemotherapeutic drugs.

The author has chosen certain illustrative examples of such agents, and their detailed story affords entertaining and informative reading. He offers the facts behind the discovery and development of the antibiotics, the sulfonamides, and the adrenocortical steroids and also presents the essential part that modern pharmaceutical companies have played in making them available. Also presented is an altogether engaging glance behind the scenes in a discussion of anticipated developments and the products that may be available in the future.

The style, format, illustrative photography, and typography are excellent, although the intermixing of the photographic story and that of the text is confusing. The somewhat florid style of the author also detracts to some extent and, since it was written by a layman, is couched in semimedical terms that are sometimes annoying to the medical reader. These shortcomings are minor, however, and the publishers are due much credit for telling of their part of this engaging bit of modern medical history as well as reporting the too-little-appreciated facts behind the development of our modern drugs.

Essentials of Pharmacology and Materia Medica for Nurses. By Albert J. Gilbert, M.D., Instructor of Pharmacology, Aultman School of Nursing, Canton, Ohio, and Selma Moody Brawner, R.N., Major, Army Nurse Corps, Walter Reed General Hospital, Washington, D. C. Third edition. Cloth. $3.75. Pp. 343, with 20 illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1951.

The rather superficial treatment of this subject may be justifiable in view of the short period of instruction available for pharmacology in most nursing schools. On the other hand, this very brevity invites criticism of shortcomings in this revision, particularly in regard to drug nomenclature. Numerous drugs included in the United States Pharmacopeia or National Formulary, such as thimerosol, merbromin, meperidine, tubocurarine chloride, phenylephrine hydrochloride, bishydroxycoumarin, and chloroquine phosphate are designated as New and Nonofficial Remedies; in many instances trade names rather than official or Council-accepted names are used. These errors are regrettable, inasmuch as in other respects the material is up-to-date.

The Practice of Marriage Counseling. By Emily Hartshorne Mudd, M.S.W., Ph.D., Executive Director, Marriage Council of Philadelphia. Cloth. $4.50. Pp. 336. Association Press, National Council of Y. M. C. A., 291 Broadway, New York 7, 1951.

Practical features of a service that has undoubtedly contributed significantly to our social life are emphasized by the author. Because of her extensive background, Dr. Mudd can be considered well qualified to provide an accurate interpretation of marriage counseling and the ways in which it can best be carried out. Her opinions are the result of 15 years' experience in interviewing applicants in the Philadelphia Marriage Council.

In the first few chapters, Dr. Mudd provides both helpful orientation on the growth and development of marriage counseling and data on special trends that have been observed with the changing social and economic pressures of modern living. Especially instructive is a chapter on the functioning marriage-counseling services provided in this country. In this chapter contributing agencies, such as religious organizations, planned parenthood, mental health, and family service groups, are identified and their responsibilities explained.

Two chapters are devoted to case histories in which the working of the marriage-counseling machinery is demonstrated. Analyses of why this service fails in some instances and succeeds in others help to promote appreciation as well as understanding of what this service can mean to a community. In a brief final chapter Dr. Mudd concludes that marriage counseling, old as an art but new as a science, has become established as a definite need in present-day society. In addition to an extensive bibliography, the book presents an unusually complete list of national and local organizations and reports on specific services provided by many of these agencies.

Community Health Education in Action. By Raymond S. Patterson, Ph.D., Director of Health Education, John Hancock Mutual Life Insurance Company, Boston, and Beryl J. Roberts, Ed.M., M.P.H., Associate in Health Education, Harvard School of Public Health, Boston. Cloth. $4.50. Pp. 346, with illustrations. C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, 1951.

The introductory discussion in this well-rounded and complete volume deals with definition of health education and health educators, the matter of community organization, how one learns, and the way to develop a real understanding of community health education. The workshop is emphasized as a medium by which the greatest number can be brought together for the greatest good. The authors carefully and thoroughly consider the most effective mechanisms for community health education. Not only is there adequate information on the use of various available mediums, but also there are details on the most advantageous use of these mediums, as well as methods for evaluation. Use of the press, literature for distribution, exhibits, radio, television, and museum facilities is discussed in detail.

In an interesting new approach to this subject there is in the back of the book what is called a "proof of the pudding" section which contains practical analyses, in three separate appendices, of health education programs at the county and state health department levels and one of a voluntary health agency, specifically the Massachusetts division of the American Cancer Society. Valuable information and many practical suggestions are provided in this volume. As physicians are being drawn more and more into this field they often have urgent need for information on the stark realities of its application. This volume will be a significant aid in such situations.

The Medical Works of Hippocrates: A New Translation from the Original Greek Made Especially for English Readers. By John Chadwick, M.A., and W. N. Mann, M.D., F.R.C.P. Cloth. $5.50. Pp. 301, with 1 illustration. Charles C Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill.; Blackwell Scientific Publications, Ltd., 49 Broad St., Oxford; Ryerson Press, 299 Queen St., W., Toronto 2B, 1950.

Although Hippocrates flourished about 500 B.C., his shadow has never dimmed. Translations from the Greek of his "genuine works" come off the press frequently, and many books have been written concerning his life and work. Littré's translation of Hippocrates' works fills 10 volumes, and William Wood and Company published in one volume the previous two-volume edition by Francis Adams. It is amazing that so much has come down to us, considering that every word had to be copied by hand by numerous amanuenses, who, no doubt, took many liberties with the original. Although parts of the "genuine" manuscript are certainly apocryphal, all of it is interesting and even helpful in training physicians for clinical observation. Although the authors of this book are aware of the numerous editions of other scholars, their contribution does not justify their adding another. Only the medical items are studied here; the surgical observations are to be found in larger tomes. The material covered includes the oath, canon, tradition in medicine, epidemics, (Books 1 and 2), the science of medicine, airs, waters, places, prognosis, regimen in acute diseases, aphorisms, the nature of man, a regimen for health, and dreams. One of the notable features of this book is that there can be found isolated instances of disease, of great medical interest, in almost any paragraph. These parts are valuable, read either separately or as a part of the entire treatise.

V 1
195

QUERIES AND MINOR NOTES

PARALYSIS FOLLOWING CEREBRAL THROMBOSIS

TO THE EDITOR:—*A year ago my mother, who is 58, had an attack of cerebral thrombosis that completely paralyzed her right leg and her right arm. Please suggest treatment.*

Francesco Tansella, M.D., Bari, Italy.

ANSWER.—Unfortunately, there are no medicines that would be of any value in treating the hemiparesis that has resulted from cerebral thrombosis. The only form of treatment for this condition which is of value is manipulation and massage of the extremities, beginning as early as possible and repeated frequently. It is most important that the patient be encouraged to move his weakened extremities and to manipulate them with his good extremity as much as possible. If this is done, maximal recovery will be seen. If, on the other hand, the patient sits in a chair or lies in bed without moving or using the paralyzed extremities, there may be no recovery whatsoever. This treatment should be begun at once, although it is questionable how much can be gained by instituting treatment a year after the onset, as in this case.

OWNERSHIP OF TISSUE SLIDES

TO THE EDITOR:—*Who owns tissue slides, reports, and other material obtained during the study of a patient's illness?*

M.D., Illinois.

ANSWER.—No court has determined the relative rights of a hospital, a pathologist, and a patient as to the ownership of tissue slides and the reports based on them. If the question is presented to a court, the holding probably will be that such slides and reports form a part of the hospital record of the treatment of the patient and that the hospital has the right of custody. This judgment is based on the fact that it is a rather general custom for hospitals to retain the custody of such records and that the patient who enters the hospital by implication consents to the custom. The hospital retains the records of a patient primarily for the benefit of the patient and of his or her attending physician. The retention of the records may serve the additional purpose of affording protection to the hospital in case any claims are made against the institution based on negligence. Such records, too, serve the purpose of promoting research and have educational value. If the laboratory work is done by a pathologist who is employed on a full-time basis by the hospital, or is performed either in the hospital or elsewhere by a pathologist employed on a part time basis, it probably would be held that the hospital, not the pathologist, retained custody of the records. The same principles that are applied to roentgenograms taken in connection with the treatment of a hospital patient apply to tissue slides.

TRAUMA AND DIABETES

TO THE EDITOR:—*Please give me any information you may have as to the possibility of shock or trauma causing diabetes.*

Harry M. Simpson, M.D., Florence, Ala.

ANSWER.—As the years have gone by, the literature has contained progressively fewer references to the possibility of shock or trauma causing diabetes. When it is realized that the prevalence of diabetes is high, with 1,000,000 known and 1,000,000 unknown cases, skepticism arises as to cause and effect. No one avoids getting married for fear that the excitement incurred will produce diabetes. The fear that the shock of dental extraction or of major surgery will cause diabetes never postpones an operation. Harvey Cushing and other neurosurgeons never noted diabetes developing after operations on the brain, especially those associated with trauma. Diabetes was not known to have developed in players after years of football injuries in a large university. It did not occur in World War I in Germany, France, England, or the United States, and, moreover, diabetes decreased among the apprehensive civilian population.

About nine-tenths of the pancreas must be destroyed for diabetes to develop experimentally. Any injury of this extent is so extreme that death from other causes is almost instant. It is true there are about half a dozen well-authenticated cases of diabetes following injury to the pancreas, but there is doubt as to whether the persons concerned may have had latent diabetes before the injury. One must remember that about 1 in 4 of the population of the United States has a diabetic tendency. In Jacksonville, Fla., it is five times commoner in relatives of diabetics than among those with no diabetic relatives. A detailed section on trauma and diabetes is found in "Trauma and Disease," edited by Brahdy and Kahn (Ed. 2, Philadelphia, Lea & Febiger, 1941, pp. 536-589).

POSITIVE WASSERMANN WITHOUT SYPHILITIC HISTORY

TO THE EDITOR:—*A man, 53, had a myocardial infarction, and made a good recovery, but six weeks later he had a positive serological reaction. At the time of his marriage, 18 months before, the premarital Kahn test was negative. He assures me that there has been no extramarital contact, and I know that his wife is free of syphilis. There has been no history of infectious mononucleosis or of blood donations to account for a nonsyphilitic positive reaction. I had repeated tests made, which showed occasional negative reactions, but even at this late date, the results are still positive. What could I do to elucidate the nature of this serological reaction? Do you think this man has syphilis?*

M.D., New York.

ANSWER.—In a case such as this, in which there is no history of a sore, rash, exposure to or past treatment for syphilis and there is no indication of syphilis by physical examination, the blood should be tested by a quantitative technic at monthly intervals for six months. It should be tested also by the Kahn verification method, even though this is not a specific test. If the titer should show a progressive rise, treatment with penicillin should be instituted. If the quantitative titer should drop from month to month, it would be an indication that syphilis is not present. If the titer remains constantly at a low level, treatment could be withheld.

LEONTIASIS OSSEA

TO THE EDITOR:—*A 15 year old girl shows an asymmetrical bulging of the left frontotemporal region extending downward over the cheek. This appeared around the age of 3. At 2 years of age she fell and apparently sustained a fracture of the skull at the left frontal area. There has been a gradual increase in the prominence of the bones. There are no subjective symptoms except for headaches that are mild and apparently associated with eye strain. X-rays of the skull reveal considerable hyperostosis and enlargement of the affected bones with the sphenoidal and frontal sinuses obliterated. The x-ray diagnosis is leontiasis ossea (fibrous dysplasia). Is there anything that can be done to prevent the continuance of the process?*

Albert Irving Clark, M.D., Shreveport, La.

ANSWER.—A discussion of this condition can be found in a recent article by Feiring, Feiring, and Davidoff in the July, 1951, issue of the *Journal of Neurosurgery*. These lesions may sometimes be removed surgically, and cranioplasty with a tantalum plate can be done to improve the cosmetic appearance when indicated. When the lesion involves the base of the skull around the optic nerves and sella, surgical removal may be attempted in an effort to relieve pressure on optic nerves or vital structures in this area. These lesions are for the most part resistant to x-ray therapy.

The answers here published have been prepared by competent authorities. They do not, however, represent the opinions of any official bodies unless specifically stated in the reply. Anonymous communications and queries on postal cards cannot be answered. Every letter must contain the writer's name and address, but these will be omitted on request.

147
51

RADIOACTIVE IODINE IN ANGINA PECTORIS

TO THE EDITOR:—*In the* American Weekly *of June 3, 1951, an article states that patients with angina pectoris have been restored to normal active life through the use of radioactive iodine. Is there any foundation for this report?*

M.D., California.

ANSWER.—The rationale for the treatment of angina pectoris with radioactive iodine (I^{131}) is as follows. I^{131} produces hypothyroidism. The lowered basal metabolic rate in this condition diminishes the oxygen requirements of the tissues, including the myocardium. Thus the diminished blood supply to the heart present in angina pectoris would allegedly be adequate. Blumgart, Freedberg, and associates (*J. Clin. Endocrinol.* **10**:1270, 1950) produced hypothyroidism by this means in several patients with angina pectoris who showed evidence of incapacity, despite marked restriction of activity and despite standard therapy for angina pectoris. The results with I^{131} were worth while in about two-thirds of these patients, many of whom were able to be much more active than previously, with only occasional or no anginal attacks.

Improvement may not be noted for as long as six months, for it may take that long for hypothyroidism to occur. Once it is induced, the patients can be maintained on small doses of desiccated thyroid. The amount required varies, the ideal dose being that amount that will relieve the symptoms of myxedema without raising the oxygen requirements of the tissues to such a level that angina pectoris recurs. Most of the therapeutic failures have resulted from inability to achieve this balance. Many patients experience definite relief from angina when they exhibit myxedema but are markedly distressed by this latter state. Relief from myxedema with desiccated thyroid in these cases is accompanied by a recurrence of anginal attacks. These are serious therapeutic failures, for the original anginal syndrome as well as the induced hypothyroidism is still present.

The induction of hypothyroidism by I^{131} should be undertaken only by experts who have the experience and equipment for proper handling of the procedure. Under these conditions, no radiation sickness or toxic effects occur, except mild transitory thyroiditis in approximately half the cases. Final evaluation of this therapy must await prolonged study.

PHENOBARBITAL WITHDRAWAL SYMPTOMS

TO THE EDITOR:—*Please tell me something about withdrawal symptoms occurring after a patient has been taking phenobarbital for some time. How are these treated?*

Garra L. Lester, M.D., Chautauqua, N. Y.

ANSWER.—If the patient has been ingesting as much as 0.8 gm. or more of phenobarbital daily, abrupt withdrawal of medication may be followed by the development of insomnia, weakness, tremor, grand mal convulsions, and delirium. If the patient has been ingesting 0.3 to 0.8 gm. of phenobarbital daily, probably only insomnia, weakness, and tremor will be observed. If the patient is an epileptic, withdrawal of even small amounts of phenobarbital may precipitate status epilepticus. These withdrawal symptoms can be prevented or minimized by slowly withdrawing the phenobarbital. Preferably, treatment should be carried out in an institution. If the patient has been ingesting 0.8 gm. or more daily, one should determine the least amount of phenobarbital that will continuously maintain mild intoxication; usually 0.8 to 1.2 gm. will suffice. After this dose has been determined, the phenobarbital should be reduced at the rate of 0.1 gm. daily. When the dose has been reduced to one-half of the amount that maintained mild intoxication continuously, withdrawal should be stopped for a day or two and then begun again. It is best to administer the phenobarbital in three or four doses daily. If excessive nervousness, insomnia, and weakness appear during withdrawal, reduction of phenobarbital should be stopped for several days, until these symptoms disappear. Electroencephalographic control is desirable, and, if spikes or spike and dome complexes appear during withdrawal, an extra dose of phenobarbital should be given and reduction stopped for a day or so. Usually, withdrawal can be accomplished within 14 days if the patient's intake has been 0.8 gm. or more daily. If the daily intake has been less, withdrawal can be accomplished more rapidly.

SPEECH DEFECT FOLLOWING CEREBRAL ACCIDENT

TO THE EDITOR:—*My father, who is 64, has essential hypertension (240/180). He had a stroke. I have treated him with all the known methods, and, although the blood pressure now is 160/110, the neurological and cerebral phenomena have not been overcome. His only annoyance is a type of local paralysis which prevents his pronouncing clearly words containing the letters "p" and "r." He is also diabetic; I have tried to overcome this condition without success. I am now using neostigmine bromide but without effect. Is there anything new that could help my father recover full power of speech?*

Dixon Ramirez, M.D., Cabo Rojo., Puerto Rico.

ANSWER.—It would seem likely that the improvement in the neurological deficit here is all that could be expected. There is no form of medical treatment available at present that is likely to bring about further improvement in a case of cerebral thrombosis with a partial aphasia such as is described here. Naturally, with the passage of time and reeducation of the speech centers, further improvement in the speech defect may occur.

CANCER OF BREAST

TO THE EDITOR:—*A woman of 44, who is still menstruating regularly, had carcinoma simplex of the right breast with metastases in a few axillary lymph nodes. Radical mastectomy was performed, and the patient received 20 x-ray treatments of the axillary region. What could be done to improve the prognosis? Would surgical or x-ray castration be indicated, or would you suggest treatment with testosterone? What would be the dose and duration of treatment if testosterone should be used?* *Paul Immerwahr, M.D., Downers Grove, Ill.*

ANSWER.—If the patient shows no signs of persistent or metastatic disease at this time, further treatment is not indicated. Castration by surgical removal or x-ray has not prevented recurrence. It is of value in some instances when recurrence of disease has taken place. In spite of an occasional opinion to the contrary, the same is true of hormonal therapy. It should be used only when there is definite evidence of local or metastatic recurrence of disease.

CRACKS AT CORNERS OF MOUTH

TO THE EDITOR:—*Can well-fitting dentures cause cracks at the corners of the mouth? My patient has had this irritating affliction for eight years; it started shortly after he was fitted for upper dentures. He tells me that last year he spent $260 for vitamins alone and "has been shot with everything but a .38 pistol." I would appreciate information on this matter.*

Laurier E. Hackett, M.D., Camilla, Ga.

ANSWER.—Well-fitting dentures will not produce cracks at the corners of the mouth. An inadequate diet will. The question is not how many vitamins the patient has taken but, more probably, how much food. Darby has reported the cure of carefully controlled cases of superficial glossitis with iron. Has the patient's lack of natural teeth prevented his eating meat and other important foods? It is suggested that your patient be given iron and a liberal diet, including an abundance of fruits, vegetables, and meat. The dentures are not directly at fault.

NOCTURIA

TO THE EDITOR:—*In* THE JOURNAL, *Oct. 13, 1951, page 706, a doctor of 67 years asks why he has to urinate five times nightly whereas he has normal daytime urination. Besides the causes stated in the answer, another cause may be present in this case, namely, an increase in blood pressure which may be caused by increased affectivity. A person gets into bed and, not feeling sleepy, he begins to think and think, and soon, in consequence, a stimulating emotion develops and is increased by his disgust at his inability to sleep, the affectivity or emotion stimulates the heart, the heart pumps more blood and raises the blood pressure throughout the body, and the kidneys excrete more urine. This chain of action is especially common in neurasthenics. In nocturia of this kind, of course, one should treat the insomnia.*

George E. Barnes, M. D.
125 Mary St., Herkimer, N. Y.

V 1
195